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VARIX OF THE URETHRA WITH HEMATURIA*

BY FLETCHER H. COLBY, M.D.†

THE character of bleeding from the urinary tract is often such that its source can be approximated from the history given by the patient. Such was the case in the following instance.

The patient was a married artist of thirty-nine years whose past health had been excellent. Six years ago he had had gonorrhea for which he had been successfully treated. The urethral infection had been complicated by a periurethral abscess situated near the glans. This abscess had been incised and drained without further consequences.

During the night of May 6, 1930, he woke up to find his night clothes wet. Investigation showed this to be blood. Upon urinating he noticed that small clots and blood were first passed and that the urine which followed was clear. There was no pain. Blood continued to ooze from the meatus during the next day in sufficient amounts to soak through several thick pads of cloth and caused the patient considerable concern. He was seen on the afternoon of May 7. Upon questioning the patient concerning previous bleeding of a similar nature, he said that two years ago he had noticed a slight amount of bleeding and upon two or three occasions since, there had been a tinge of blood in the very first portion of voided urine. At no time, however, had the bleeding persisted or been as alarming as at the present.

Examination showed a large, healthy appearing individual with good color. No physical abnormalities were present. The external genitalia were found to be normal except for the presence of dark blood oozing from the meatus. Urination was exactly as described by the patient; the first portion was dark with blood, the remainder of the urine was clear. Thus, the bleeding was very evidently of urethral origin.

Cysto-urethroscopic examination was performed the next day under a general anaesthetic. The bladder was normal in appearance with the bladder outlet clearly defined and regular. The prostatic urethra and verumontanum were possibly redder than usual and two small oedematous tabs projected from the mucous membrane near the verumontanum. As the instrument approached the membranous urethra, it was noticed that the left wall of the urethra bulged slightly into the lumen and that here the mucous membrane was dark blue in color. This condition persisted through a distance of six or eight centimeters, extending well into the bulbous portion of the urethra. Dark blood could be seen to ooze from several places along this area. The appearance was that of a varicosity of the urethra. Instrumentation caused rather less bleeding and I doubt if this would be the case in hemangioma. Several applications of a strong solution of silver nitrate were made to the bleeding points and a tight bandage applied to the perineum. The bleeding had considerably lessened that day and became progressively less during the next three days when it completely stopped and has not recurred.

Varicosities are not infrequently observed beneath the mucous membrane of the bladder but are uncommon in the urethra. A short survey of the literature has shown but one similar case recorded. This was reported in 1903 in the Johns Hopkins Hospital Reports. In this case a young man had bled nearly to exsanguination from an extensive varix of the urethra. Many attempts, including extensive operation, had failed to stop the bleeding. Eventually a perineal urethra was made and the varicosed portion destroyed by electrolysis.

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A CASE OF PYONEPHROSIS TREATED WITHOUT OPERATION*

BY EDWARD L. MERRITT, M.D.†

IN speaking once more along the line of conservative renal surgery and cystoscopic ureteral catheter manipulation, I don't want to be classed as an enthusiast. I think oftentimes if we mention a method of treatment more than once or twice we are immediately labelled as such. Several years ago I reported a case of a young man admitted to our hospital in Fall River with a stone in the pelvis of one kidney, with definite pyonephrosis and no function in that kidney at all. He was in line for a nephrectomy. We finally decided, however, after irrigating the kidney through the ureteral catheter, to remove the stone and leave the kidney. This was done, and we then continued washing out the kidney with the result that the function

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of that kidney came back. A year later I had that young man come into the hospital and cystoscoped him again. He had practically normal function in that kidney and a pyelogram showed a fairly normal pelvis. I venture to say that in many instances, that young man would have lost his kidney.

Tonight I have a case to report of a young man, 17 years of age, who was admitted to the Cape Cod Hospital in Hyannis the fifteenth of last December with severe pain over the left kidney and left loin, radiating around to the left side of the abdomen. Temperature 101°, white count 18,000. He was a very sick boy and gave a history of having had an attack of influenza about two weeks previously. Dr. Gray of the Cape Cod Hospital examined him and decided that he probably had a perinephritic abscess and on Dec. 19 asked me to come down and see him with the intention of having me operate on him. I went down and after examining the boy decided to cystoscope him. Cystoscopy showed the left side of his bladder a mass of reddened mucosa, so much so that it was very difficult to find the ureteral orifice. The right ureter was functioning normally. I did not catheterize the right ureter because there was so much infection on the other side that I deemed it inadvisable to take the chance of carrying the infection to his right kidney but I did catheterize the left. When the catheter reached the kidney pelvis a small amount of purulent urine dribbled from it. I then pushed the catheter in just a little bit further and thick pus oozed out from and around the catheter. There was no function in that kidney. A pyelogram was made and it showed what appeared to be a destroyed kidney with a large abscess in the parenchyma. My catheter had evidently gone beyond the kidney pelvis and broken through into the abscess. Thick pus continued to drain from that side. I flushed the kidney out and injected 20 c.c. of 5% mercurochrome. His temperature immediately fell to normal, all pain ceased and his general condition improved rapidly. I left the catheter in place so that the attending physician could irrigate the kidney daily and instructed him to take the catheter out after several days.

Laboratory reports showed this pus to be loaded with staphylococci aureus.

I visited the patient again on December 23 and cystoscoped him. His temperature was almost normal, general condition very much better. We went through the same procedure, irrigated the kidney and injected mercurochrome and left the catheter in another four days. During this time mercurochrome was injected each day. On December 30 I went down again, his temperature was normal, he was feeling fine, sitting up and on this occasion cystoscopy demonstrated that there was some urine coming through from the affected side and there was an appearance of phthalein in 12 minutes from that kidney. We did not do another pyelogram at that time but I felt that we had started something of a therapeutic nature. The boy was discharged from the hospital January 3 with a normal temperature, very greatly improved, general condition much better; since then he has gained 12 pounds and is feeling fine. I hope at a later date I may be able to cystoscope him again and later make a pyelogram of the kidney and I think we will find that that kidney has come back.

In this case, as in the one previously reported, nephrectomy was avoided, the patient recovered and the value of conservative treatment was demonstrated.

A CASE OF HERPES ZOSTER MISTAKEN FOR RENAL DISEASE*

BY J. DELLINGER BARNEY, M.D.†

I WANT to call your attention to two cases that I thought were worth reporting.

The first is a man of 69 who was referred to me last February with the following story. About a year before he had been operated on for a very severe cholecystitis. No stones were found, the gall bladder was simply drained, and he had a prolonged convalescence, lasting three months. During his stay in the hospital he passed 3 or 4 small stones from his bladder but there were no particular symptoms of pain so it was impossible to say from which kidney the stones had come. Previously there had been no indications of renal trouble. There were no symptoms following this attack or following the operation. However, I understand from his doctor that for a long time before the operation and ever since then, in fact, he has had 3 or 4 blood cells per field in his urine and 1 or 2 casts. About five days previous to my seeing him about the first of February, he began having quite severe pain in the region of the right kidney which radiated to the right groin and testicle on that side. There had been no nausea or vomiting and no urinary symptoms, no temperature and no gross hematuria. On lying down he was comfortable but in the upright position the pain was aggravated.

Examination of the urine showed 3-4 blood cells per field, a rare cast, blood pressure 160/100, white count 8000. He was a very obese man with an enormous abdomen, apparently in a good deal of distress. Nothing much could be determined from abdominal examination except that he had very marked costo-vertebral tenderness and tenderness extending well around to the front in the right loin. One could feel neither kidney and no mass. Both Dr. Ragle and I felt that he should be cystoscoped in view of the symptoms and past history. I cystoscoped him on February 7 and found an essentially normal bladder. The catheter went up the left side perfectly well with a good flow of urine but on the right it went up to the kidney but needed a little urging. It seemed as if there was some tightness. Kidney urine showed nothing but a little blood which may be accounted for by trauma. Bladder urine showed 3-4 blood cells and occasional leucocytes. X-ray was entirely negative for stone throughout the urinary tract. Pyelogram was done on the right side, and showed a perfectly normal renal pelvis, with no dilatation or evidence of pathology. He made a good recovery and had no reaction from the cystoscopy and was about ready to go home when he again developed pain and tenderness in the right side and examination showed a very definite herpes zoster which developed more and more and lasted about 10 days. It was perfectly typical in every respect.

In other words, the case was a mistaken diagnosis but it seemed to Dr. Ragle and me that

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there was at the moment no other reasonable diagnosis, especially in view of the history, except that of probable renal stone. It may be a common thing but I have not seen it before. He may have some stones in his kidney but we cannot find them.

PRIAPISM COMPLICATING SPLENIC LEUKEMIA*

BY J. DELLINGER BARNEY, M.D.†

The other case was a young man of 29, white, married, who entered the Baker Memorial in April. His local doctor told me he had very marked priapism. He said the man was perfectly healthy otherwise. Thinking it might be one of those unusual cases of hemorrhage into the corpora cavernosa, I thought we might possibly relieve it by drainage similar to a case I had before, so he came into the hospital. Then I found he had been seen previously by one of our medical men who had made the diagnosis of splenic leukemia. He found a white count of 308,000, gave him treatment consisting of liver and iron and the man improved a good deal, but he gave a very bad prognosis.

A week before being admitted to the Baker Memorial, that being the ninth of April, the patient said he had normal coitus following which this priapism had developed and it had been persistent ever since. It was the most marked case I have ever seen and was the source of a considerable amount of pain. He could urinate but with much difficulty and he had a good deal of dysuria. He looked well except a little pasty and anemic. His spleen extended over to the right side of the median line and down into his pelvis and his white count was 485,000, red count 3,210,000. He happened to be a Christian Scientist but was willing to come into the hospital because I told his doctor he might be relieved by operation. He was very glad to have it operated on but when I found he had leukemia I did not want to operate. I got Dr. Frank Hunter to see him and he made all the examinations possible and found a very marked and very rapidly progressing case of leukemia and decided x-ray would be the only treatment. But the patient preferred to get Christian Science treatment and went out and got it. I am told by his local doctor that after about a week in some Christian Science retreat he had not changed at all. He went home and then, through some mysterious influence, he began to improve and has so improved generally and locally that he now goes about his work and feels much better.

Examination of this enlarged, congested organ showed nothing much except marked tenderness at the crura of the corpora cavernosa on either side. There was no edema and no ecchymosis. So far as I can make out, nobody knows the exact pathology or etiology of this. Whether it is a thrombosis from excessive myelocytes or a thrombosis of the ordinary sort, I do not know. In some of the textbooks it is shown to be not an uncommon thing but I have asked many of my medical confreres about it and they have never seen this complication. Without making a pretty thorough examination, the presence of leukemia might be missed.

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A CASE OF ADVANCED POLYCYSTIC DISEASE OF THE KIDNEYS*

BY AUGUSTUS RILEY, M.D.†

SOME time ago I presented to this group of men, pyelograms of a case with bilateral polycystic kidneys. That was four years ago. The patient is living and able to do more or less of his regular work as a sign painter. He is here in the building and I wish to present him to you as one of the living urological curiosities. His kidney function test, done a few days ago, showed only a pink reaction in two hours. He has a non-protein nitrogen of 106. His systolic blood pressure is 200. He has an occasional attack of severe headache which is relieved by a good dose of magnesium sulphate.

Here is a man 40 years old, rather tall with a large abdomen. The size of his abdomen is due to his large polycystic kidneys. The left side is larger than the right side. On palpation you can readily see that his left kidney extends from this bulging here in his left back to the pubis and here, below the umbilicus, two inches or more beyond the median line to the right side.

He has an occasional haematuria, which lasts for several days. Two years ago he had second degree gasoline burns of the left side of his face and chest. Last winter he had double pneumonia.

He is an old champion six-day bicycle rider and during his riding days he had many accidents. He has had at different times a fractured hip, fractured thigh, fractured sternum, fractured collar bone, and a fracture into the frontal sinus. He claims that he has had more than his share of alcoholic drinks.

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RUPTURED URETHRA WITH EXTRAVASATION OF URINE FOLLOWING SELF-INTRODUCTION OF A NUT PICK*

BY CHANNING S. SWAN, M.D.†

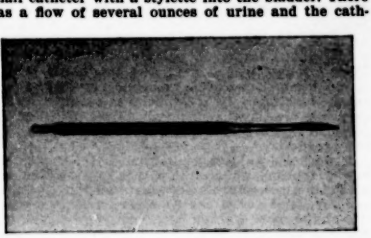
PERHAPS this should come under the presentation of instruments as the patient from whom I removed this used it as an instrument. I present it as an unusual foreign body.

The patient, a 76-year-old man, entered the accident ward of the Massachusetts General Hospital Dec. 11, 1929, complaining that he had lost a nut pick in his urethra. He said he had had a stricture for several years and on a few occasions in the past, when he had great difficulty in passing any urine, he had dilated himself by passing a silver nut pick into his urethra.

On the evening of entry, having been unable to pass his water for several hours, he had again attempted dilatation with the nut pick, but in so doing, the pick slipped out of his fingers, into his urethra, and he couldn't get it back. He had tried to void it out but this simply caused swelling in the perineum and the passage of a small amount of urine.

By rectal examination the blunt end of the pick, which had been introduced first, was felt just anterior to the apex of a small prostate and only separated from the rectum by a very thin amount of tissue. The sharp end was located just below the penoscrotal angle. Instruments passed down the urethra to this region showed that the foreign body was outside the urethra in the ventral portion of the penis.

The pick was easily removed by simply incising over the pointed end of it and withdrawing it. There was a moderate amount of extravasation of urine in the perineum. We were fortunate enough to get a small catheter with a stylette into the bladder. There was a flow of several ounces of urine and the catheter was left in to act as a guide for external urethrotomy.



Under spinal anaesthesia, external and internal urethrotomies were done at once. The patient made an uneventful recovery but on the eleventh day postoperative, just before he was to be discharged to go home, he went into the toilet, was heard to fall, and was carried back to bed cyanotic and unconscious. Respirations became very labored and he died within a few minutes. There was no autopsy but a clinical diagnosis of pulmonary embolus was made.

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A CASE OF RENAL INFECTION WITH MARKED ANEMIA—CURED BY TWO-STAGE NEPHRECTOMY*

BY EARL S. MERRILL, M.D.†

I PRESENT the following case report because of several interesting and somewhat unusual features.

Patient—J.J. Female. Married—Age 40.

This patient first entered the Eastern Maine General Hospital on March 20, 1929. The diagnosis on that admission was, Full Term Pregnancy. She had a normal delivery of an apparently healthy, 8 pound baby. Her pulse, temperature and respiration were normal throughout her stay in the hospital.

The history taken at that time made no mention of any urinary trouble, past or present and gave no indication of what was to follow. The urine examination revealed that there were many pus cells in the sediment but this apparently received no attention. The Hgb. was 80% (Sahli) and the red count was 4,510,000. She was discharged April 2, 1929.

The second admission was on April 30, 1929. The patient gave the history that two weeks previous she was taken ill with what she thought, and with what her doctor thought was Grippe. She had a gradual onset of pain in her back, which was associated with chills and fever.

When seen by the Urological Service on May 23, a check on the history revealed that the pain in her back was in the region of the right kidney, and that it radiated through to the right side of her abdomen, and to some extent down along the course of the ureter to about the level of McBurney's point. She also stated that for the past four years she had had repeated, similar attacks of pain, which were associated with chills and fever. She had had some frequency of urination, and slight burning, when voiding. The past history, outside of the urinary trouble was essentially negative. She had been in very good health all her life. Family history was also negative. Marital history: she had two children, alive and well. There had been no miscarriages. It was during her second pregnancy, four years before the present illness, when at nearly full term, she had her first attack of pain in the right kidney region. This was associated with chills and fever. She was quite ill for two weeks, and then had a normal delivery of a 7½ pound baby. She recovered from her illness and was up doing her housework in about three weeks after delivery.

During the interval between her present admission and when she was seen in consultation (about

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23 days) her temperature varied between 99° and 103.5°, her pulse ranged from 90 to 120, and her respiration rate was normal.

Physical examination showed a very sick appearing woman. Her color was pale, and she appeared to be anemic. The heart and lungs were normal. There was some tenderness in the right costo-vertebral angle, right flank, and also in the right upper quadrant of the abdomen. There was slight voluntary muscle spasm in the right kidney region, posteriorly.

On inspiration a mass could be felt in the right flank, which was thought to be the kidney. The liver could not be felt. Nor was the spleen palpable. The reflexes were normal. Vaginal examination revealed a normal sized uterus, in normal position. No masses felt, and no tenderness noted. The cervix had a small laceration.

Laboratory Findings:

Urine: slightly acid, cloudy, sp. gr. 1015, sugar 0, albumin S. P. Tr.; Sediment; many pus cells, a few epithel. cells and an occasional red blood cell.

White count: 11,900

Hgb. 65%. Red cell count: 3,130,000.

Differential: Poly. 80%, Sm. Lymph 18%, Lg. Lymph 2%.

Blood culture: Negative.

Wassermann and Kahn tests: Negative.

Cystoscopic examination: The bladder mucous membrane was red and congested, especially on the trigone, and in the region of the right ureteral orifice. Both ureters were seen to function, and the urine coming from the right ureter was quite cloudy. The ureters were catheterized easily. Sterile specimens were collected.

	Culture	*Smear*
Bladder:	mixed colon Bacillus, and Streptococcus.	Many pus cells, Gram positive short chain streptococci.
Right kidney:	mixed Colon bacillus, and Streptococcus.	Many pus cells, Gram neg. bacilli, and some short chain streptococci.

Left kidney; no growth. Occasional leuk. No Bac.

Pyelo-ureterogram: Very marked, irregular enlargement of the right kidney pelvis, and the calyces. Marked dilatation of the right ureter down to the lower end where there was a large, oval, smooth appearing stone. Cystoscopic appearance of the right ureteral orifice, and the passing of the ureteral catheter gave no indication of the presence of this stone.

Phthalein test:

	Amount (urine)	Per Cent.
Right kidney:	15cc	0
Left kidney:	120cc	36
Transvesical:	20cc	4

May 28, 1929—Red count 2,640,000, hgb. 55% (Sahli).

May 30, 1929—The patient was transfused. Only a small amount of blood had been given when she went into syncope. Stimulants were administered and only about 200 cc of blood was given. Direct transfusion of whole blood was the method used. Her blood was Group 2. No hemolysis took place when the blood of the donor and the patient were matched.

May 31, 1929—Hgb., 59%. Red count, 2,880,000.

June 3, 1929—Hgb., 63%. Red count, 2,960,000.

June 3, 1929—N. P. N., 54 mg. Blood Urea, 24 mg. Creatinin, 2 mg.

June 7, 1929—Hgb. 65%. Red count, 2,910,000.

June 8, 1929—A second transfusion was tried. The patient developed syncope as she did during the first transfusion, and again only about 200 cc. of blood was given. A different donor was used and care was taken in grouping and matching the blood.

June 10, 1929—Hgb. 66%. Red count 2,800,000.

June 14, 1929—The patient was very sick and the transfusions did not help much, so operation was decided upon. A small perinephritic abscess was opened, and as this connected with the pelvis of the kidney through a thin cortex, the kidney was drained through this opening, with a rubber tube. A large amount of pus was found in the kidney. The kidney had been thoroughly destroyed. The patient's condition and the mixed infection of Colon Bacillus and Streptococcus did not warrant a nephrectomy. Culture taken at operation showed Colon Bacillus and Streptococcus.

Following operation the patient's temperature and pulse came down to normal within six days, and she gradually began to improve.

July 3, 1929—Hgb., 66%. Red count, 3,120,000.

July 27, 1929—Hgb., 80%. Red count, 3,945,000. The patient was allowed out of bed for the first time.

August 5, 1929—Hgb., 85%. Red count, 4,460,000.

August 6, 1929—Nephrectomy was done. Hypodermoclysis of 2000 cc. of saline was given during the operation and before she was taken back to her bed.

August 12, 1929—Hgb., 86%. Red count, 4,430,000.

August 24, 1929—Patient out of bed and passed a smooth oval stone about one centimeter in the greatest diameter, from the bladder.

August 27, 1929—The patient was discharged in very good condition. Her wound was entirely healed.

ESSENTIAL HEMATURIA WITH UNUSUAL CASE REPORT*

BY CLINTON N. PETERS, M.D.†

PROFUSE unilateral renal hemorrhages from undetermined or obscure causes are grouped for convenience under the pathological heading of "Essential Hematurias." It is with a feeling of hesitancy that I approach this particular branch of pathology and my object is rather to bring the subject before the meeting for a free discussion than to add any startling information on this most elusive of pathological entities. I feel in my humble opinion that the terminology of this particular class is most ill-advised, and that the word "essential", lends to the student of medicine and to the laity, should they be so unfortunate as to acquire a meager understanding of this insidious condition, a feeling of security little warranted by experience, and a misconception of an objective symptom so prominent, and so closely associated with pathology of gravest concern. Better to my mind should these elusive bleedings from the kidney be called "Idiopathic Hemorrhages or Hemorrhages from Minute Foci." Fortunate also, that as medical science has advanced, this undetermined group has shrunk in numbers until at present we may safely say that they constitute only a minority membership. For at best, whatever our terminology, it but expresses our inability to establish a correct diagnosis.

Of their etiology, a great deal is left to conjecture and imagination. That they occur, we,

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who daily seek their cause, must all too well admit. That they cease spontaneously, is fortunate for the afflicted but leaves the earnest seeker of knowledge absolutely baffled, and furthermore, unable to carry on his research for fear of doing harm to an apparently cured condition. Not only this, but the subject is thereby removed spontaneously from observation, and is ofttimes lost to the view of the medical advisor who has for his painstaking and sometimes anxious labors, an aching void whose appetite is whetted by conjecture only, with no possible opportunity for gratification. Rarely, indeed, is the case of such severity encountered, as to warrant surgery, and then only as a last resort; and it is by these cases, where material is at hand for study, that our knowledge of these conditions can be better classified.

The first mention of this condition was by Sabatier in 1889 who did an exploratory for suspected renal calculus. No calculus was found and the kidney was removed. Much to the surprise of the operator, the organ showed nothing more than a mild nephritis. He had the courage to report this case. Immediately, other case reports of a similar nature followed, until it was an established fact that renal hemorrhage might and did occur frequently with very little change in the renal tissue.

Various causes have been brought forward to account for these bleedings, and a few classifications have been attempted. Foremost in this idiopathic group, we have the cases attributed to nephritis. Renal bleeding associated with the other cardinal symptoms of nephritis is a well-established fact. In a bilateral bleeding without the association of casts, where surgery offers little opportunity, we feel that the average student would adhere to this explanation. In cases where the hemorrhage is unilateral, a doubt is immediately raised and every effort exerted to explain its origin by other means. We must search deeper into the causes of this interesting medical condition before we can say with authority that hemorrhagic nephritis must of necessity involve both kidneys.

Inflammatory conditions involving the renal papillae have been blamed for another group of these interesting cases. Here, we find small congestive and spongy areas about a particular papilla where appears the bleeding point. Further case reports have brought to light rupture of small varicosities within the renal pelvis. Angioneurosis is mentioned in the literature as a fairly frequent source of renal bleeding. Unquestionably, some of the blood pictures of the purpuric or hemophiliac or leukemic group give rise to hematuria. Bleeding from the kidney occurs not infrequently during pregnancy and lactation, the basic factors in all probability being a toxemia.

Roth in a series of 201 cases of vicarious menstruation finds two cases of blood coming from the kidney; and sad to relate, eliminating as well as possible these enumerated causes, there still exist cases which show blood in the urine over a long period of time with no diagnosis whatsoever possible.

Clinically, the picture presents a mild hematuria, usually unassociated with pain, customarily not active enough to form clots, and rarely intense enough to cause more than a mild drain on the blood-forming organs, resulting in a general condition of chronic anemia with lassitude and low vitality. The bleeding may be mild or severe, continuous or intermittent. The character has nothing particular to distinguish it from the hematurias of other conditions. Cystoscopy reveals the source as renal in origin and unilateral. Only by observation, should hemorrhage be blamed on the kidney as even the mere passage of a ureteral catheter may produce macroscopic blood in the urine from trauma alone. The diagnosis is arrived at by elimination of known pathological conditions. Extreme care should be taken to leave unturned no diagnostic stone and the most minute history both past and present should be searched for evidence of strain, injury, blood idiosynerasies or even drug addiction as the underlying or exciting cause. Pyelograms, ureterograms, specimen examinations, function tests, cultures and guinea pig inoculations must conclusively prove that we are not dealing with a surgical kidney before we arrive at the decision of classifying the case in the idiopathic group. Having attained this eminence of ignorance, what shall the procedure of choice in the conduct of the case be?

1. It is absolutely necessary to explain to the patient the great need of observation and periodical examinations.
2. Haste surgically should be made extremely slowly except in the few emergencies encountered.
3. Experience has taught us a few valuable procedures which may avail without damage. These are ureteral catheterization, pelvic lavage with silver nitrate solution up to 5% strength, and pelvic injection of solution of adrenalin. Occasionally, the thromboplastic agents or even transfusion will bring about a cessation of the bleeding.
4. Surgical decapsulation of the offending organ has cured many cases.
5. Nephrostomy in my opinion is not a sensible procedure for cure and leaves a kidney of doubtful value. Surgically, it is as severe an operation as nephrectomy.
6. In an emergency and in protracted cases causing much loss of blood, I would consider nephrectomy to be the operation of choice.

Following is a case report offering many unusual features:

CASE No. 12702, Maine General Hospital, Urological Service.

On March 15, 1922, I saw Mrs. B., age 29, in consultation with a local obstetrician. She was bleeding profusely from the bladder and forcing large clots through the urethra almost continuously. I ordered her to the hospital at once. From the obstetrician, I got this history: Three months back, he delivered this woman of a normal child, her second. There was no history at any time of hematuria and her first pregnancy of two years ago was attended with no unfavorable symptoms. She made an uneventful recovery from her second pregnancy, and was able to attend to her household duties and nurse her child since her return from the hospital two months ago. In short, she was, to our best knowledge, a perfectly normal, healthy woman who had borne two healthy children; up to the previous day she had never experienced an illness of any severity. Her family history brought to light nothing of note.

Her present illness started on the morning of the day before I was called when she passed a large amount of bloody urine. She was not alarmed as she considered her period had returned. One hour later, this was repeated and thence at frequent intervals during the day. That night she called her physician who advised rest and morphine. She put in a very uncomfortable night, passing large amounts of bloody urine and, finally, the bladder became distended and the physician was summoned. Catheterization and washings by him accomplished nothing and the bleeding continued until that afternoon at which time I ordered the woman to the hospital. Her condition was serious but not alarming. Physical examination showed a large woman, 5 ft. 8 in. in height, well-nourished, weight 170 lbs. She was pale and anxious looking. Blood pressure was 110/70, pulse 120, respirations normal and temperature normal. Blood examination showed hemoglobin 60, reds 3,064,000 and a normal platelet count. Her coagulation time was six minutes. Cystoscopic examination was accomplished with great difficulty on account of the large clots in the bladder but finally these were broken up and the bladder washed clean. Blood was seen coming from the right ureter in large amounts. The urine from the left side by catheter was normal in all respects. Ureteral catheter was passed up to the right pelvis which was lavaged with solution of adrenalin 1-5,000. Patient was put to bed in shock position, morphine was administered, intravenous fluids were given and Squibb's thromboplastin in 20 cc. doses was ordered every hour. Her condition was not dangerous at any time, and after five doses of thromboplastin, the hemorrhage ceased. Recovery was uneventful.

Six months later, I examined this woman again. At that time, urine from both kidneys was normal and the dye test was equal. Pyelogram of the affected side was negative and guinea pig inoculation revealed no tuberculosis. I considered the case closed.

In 1925, she became pregnant and passed through a normal delivery, giving birth to a healthy child. Close observation by the same obstetrician failed to show any urinary changes during the course of her pregnancy. On July 20, 1928, I was again summoned by her attending physician who informed me he was sending Mrs. B. to my service at the hospital with a profuse hematuria and said that her condition was alarming. On arrival at the hospital, examination showed her pulse 130, respirations normal, temperature normal, blood pressure 119/70, hemoglobin 55%, red count 2,700,000, white count 5,000 with a coagulation time of six minutes. She was given intravenous glucose, and thromboplastin in 20 cc. doses up to 100 cc. The next morning, I cystoscoped the patient but was unable to clear the bladder of clots and find the source of bleeding. She continued all that day in spite of what we could do and the next morning she was transfused. At this time, I again cystoscoped her and was able to get rid of the clots in the bladder sufficiently to see that the bleeding was coming from the same right kidney which had caused her trouble six years previously. I attempted pelvic lavage with no success but left the catheter in the ureter. There was a slight reaction from the transfusion and cystoscopy but no cessation of the bleeding. The patient was getting very much disturbed mentally and tired out physically as the bladder was continually distended with clots. She was prevented from dehydration by saline and glucose solutions and, while her condition was not desperate at any time, I felt that a radical step was imperative in the next 24 hours. There was no cessation of bleeding during the night following transfusion, and in the morning I performed a right nephrectomy. The condition at operation as taken from the records reads: right oblique incision, kidney exposed and found extremely congested and purplish in color. The pelvis was distended with clots as was the ureter. The ureter was explored for tumor nearly to the bladder, but it was difficult to be certain on account of extreme dilatation by clots. Ureter was clamped and tied and the pedicle of the kidney clamped and tied and the organ removed. The pathologist reports the condition in this manner: "Right kidney is considerably enlarged and feels hard and tense. On section, the tension is relieved and fluid blood and clots escaped, perhaps, 2 oz. The outer surface is smooth and the capsule strips easily. When the blood is cleaned out the kidney weighs 8½ ounces. On section, the consistency is about normal and the markings of the cortex and medulla are fairly clear. In the pelvis, a congested appearance is

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presented and there seems to be bleeding points under the mucosa. This appearance is seen also in the attached two and one-half inches of the ureter. No cysts or nodules are found. *Microscopic:* Study of the cortex shows inflammation of considerable degree. Tubules and glomeruli contain hyalin and

show cloudy swelling and degeneration. Stroma is slightly increased. There are marked areas of round cell infiltration. The pelvis shows inflammatory exudate, round cell and leucocytic infiltration, also dilated and congested venules and submucous hemorrhage. *Diagnosis:* Chronic and subacute nephritis, varices of renal pelvis, enlarged kidney."

To summarize: there exists a class of unilateral renal hemorrhages whose pathology is extremely obscure. In all probability some inflammatory or congestive agents from either bacterial invasion or toxic origin are the fundamental causes. It is only by careful pathological examination of removed organs that we can classify these cases and find their exciting cause. Surgical decapsulation has produced many cures. In extreme cases of the fulminating type in our opinion, nephrectomy is the operation of choice.

Discussion

Dr. A. H. Crosbie, Boston: I am very glad that Dr. Merrill presented his very interesting case. He had a big problem before him. Personally I have always been very strong for doing a two stage nephrectomy in these very sick patients with pus kidneys. There is more or less disagreement among the urologists about it but I think that his case is an ideal one to drain first by putting in a tube under novocain and letting them get over their sepsis. I think probably another time Dr. Merrill would have opened that kidney earlier because the drainage did much more good than the transfusion.

Dr. Peters' case is extremely interesting; he too had a big problem before him. I do not agree with him that nephrostomy is contraindicated in cases of this sort. As he said, most of the cases of hematuria that are not very extensive can be completely relieved by decapsulation. Just what that does we do not know but there is no doubt but that it does stop a great many of these. In the very severe cases, such as his, I believe in trying a nephrostomy. I have had two cases of very severe bleeding, unilateral, in which I was afraid that a mere decapsulation would not be enough and on both of these I did a nephrostomy and drained the kidney for about a week. Neither of these cases has had a return of the bleeding. One was four years ago and the other six. The one six years ago had bled for a long time and very extensively. I saw him a couple of years ago and did a pyelogram on that side. Originally the pyelograms had been entirely negative. I must admit, however, that after the nephrostomy the pyelogram showed a very much distorted pelvis but he had no further bleeding from that side.

Dr. Hicks, Boston: I would like to report briefly a case of essential hematuria appearing recently in the Lahey Clinic.

The patient is a physician 62 years old, who came to us complaining of hematuria and complete urinary retention. The hematuria had been almost constantly present for three years, while his urinary retention had been present only for eleven days. During these three years following the onset of the hematuria he had never had a period of more than 8-10 days when he was free from it. Until the onset of his urinary retention, there were no other symptoms associated with the bleeding except that at times the clots were sufficiently large to block the bladder outlet and cause him to resort to catheterization.

He was first cystoscoped two years before he came to us and was told that his bleeding was of the essential hematuria type. Following the cystoscopy, he was treated by pelvic lavage for a few days. As the result of this, his bleeding ceased for only a very short period. He had been cystoscoped repeatedly since then and the bleeding had continued. He was always told that the bleeding came from the left kidney and there was no lesion demonstrable by pyelogram. Since the onset of the illness, he had lost 38 lbs., most of which during the last few months. Before the onset of the complete urinary retention, he had had only mild frequency, urinating on the average of 2-3 times during the day and 3-4 times at night. There was no hesitancy or diminution in the size of the stream that he had noticed.

In addition to his urinary difficulties, he knew he had angina pectoris for which he took nitro-glycerine with relief. Apparently the attacks, which were felt to be angina pectoris, were not severe in nature. He had also taken insulin for two years for the management of a mild diabetic condition.

There were no illnesses of consequence in his own personal history. One brother had had an attack of hematuria which was similar to the patient's. This cleared up after a few days under cystoscopic treatment.

On physical examination the patient was found to be markedly anemic, apprehensive and was very much afraid of malignancy. He also showed evidence of very marked recent weight loss. The heart and lung examinations were essentially negative. There was a small umbilical hernia. He had a complete urinary retention from an adenomatous type of prostate. The laboratory studies at that time showed 48% hemoglobin, a little more than 3,000,000 red cells and 8000 white blood cells. Special studies were carried out on the blood for a blood disease, but these were negative. The blood non-protein nitrogen was normal, the blood sugar was only slightly elevated.

On the second day after admission to the hospital a cystoscopic examination was done under sacral anaesthesia. A large number of blood clots were evacuated through the cystoscope. The bladder mucosa looked essentially normal after the clots were evacuated except for moderate trabeculation and a definite adenomatous type of prostatic enlargement. Both ureters were catheterized without difficulty. Gross blood was obtained from the left kidney and the drainage from the right was clear. A differential phenolsulphonphthalein showed an appearance time of 4 minutes on both sides with a 4% secretion from the left and 20% from the right in 20 minutes. The pyelograms showed essentially normal types of pelves except that on the left side there was an area of lessened density in all the pictures made. These were thought to be due to blood clots in the pelvis. The cystoscopic examination done two days later revealed the same findings.

We were confronted with the problem of what to do. In view of the long-standing bleeding of such a serious nature, we felt that a radical step should be taken, especially because of his age, diabetes, angina pectoris and his prostatic condition. The bladder was drained for twelve days after admission with an indwelling urethral catheter before a nephrectomy

was done. During this period the urine was constantly bloody and the clots were large enough to block the catheter repeatedly so that frequent changes were necessary. On the twelfth day after admission, the left kidney was removed. Nothing on the external surface was noticed except that the perirenal tissue was more adherent than usual. On removal of the organ, the pelvis was found to be filled with recent blood clots and on opening it there were numerous punctate hemorrhagic areas in the mucosa, which was slightly edematous. The parenchyma on split section looked essentially normal. This was confirmed by the pathologist, who found the kidney parenchyma essentially normal and numerous areas of hemorrhage in the pelvis and some round cell infiltration but nothing else.

During the course of treatment in the hospital the patient received four blood transfusions each of 500 c.c. of citrated blood. These were given after the nephrectomy, the cystotomy, the prostatectomy and one following a secondary hemorrhage. At the time of discharge his hemoglobin was 76%. Nineteen days after the nephrectomy, a cystotomy was done, followed three weeks later by enucleation of the prostate. The whole course after his operations was satisfactory except that he had a secondary hemorrhage after his prostatectomy which required a repacking of the prostatic bed and there was a rather marked degree of abdominal distention, which was cared for by the usual measures. He was discharged eighty days after admission. Recent reports through the mail show that he is constantly improving and has regained all the weight which he had lost. He says he is well in every way. There has been no further hematuria or urinary retention.

We felt this case would be of interest following the previous report, especially inasmuch as this one was complicated in so many ways.

DR. BANCROFT WHEELER, Worcester: I would like to ask Dr. Peters or any of the men what their reaction was to an article on the treatment of essential hematuria, by Hagar of Los Angeles, which came out recently. He treated two cases with heavy x-ray therapy, apparently with perfect success. In the same paper he reported a case of bleeding from a hypernephroma, verified by biopsy, which had disappeared entirely 6 years after a course of heavy x-ray treatment.

Of course, the disadvantage in x-ray treatment is the danger of stirring up a nephritis, and in fact x-ray has been used for the purpose of producing experimental nephritis; but apparently from these reports one can give a heavy enough dose to stop the bleeding and still not seriously damage the kidneys.

DR. ARTHUR CHUTE, Boston: I was very much interested in Dr. Merrill's paper. I feel very much as Dr. Crosbie does about it. Patients with these septic renal conditions should be opened up early and it is very easy to do this even under novocain, if that is necessary. Within a month or so I opened under local anesthesia the kidney of a man who was going to pieces rapidly with sepsis. I think Dr. Merrill did just the right thing and I think, as Dr. Crosbie does, that perhaps the next time he will do it earlier and be even more pleased with the result.

As regards hematuria, the discussion sounds like those of twenty years ago. Of course I do not believe we have "essential hematurias". I think they must all be due to some renal change. What it is, I do not know. I think in most instances the so-called "essential hematurias" are the result of some form of nephritis. The last case reported, I judge from the history, was one that I saw some two years ago and urged to ignore his local because of his general condition. Decapsulation is the operative measure to be tried first on all these cases of so-called essential hematuria. Sometimes it does not work. Of course nephrectomy is an easy way out but unfortunately if you follow these patients you will find that they sometimes die a few years afterwards, apparently of disease in the remaining kidney. I had such a patient who was bleeding very severely. I found nothing definite but the bleeding nephritis of perhaps an undetermined type, but a nephritis none the less. It seems reasonable to suppose that either decapsulation or nephrostomy would have done her an equal amount of good as regards the hematuria and have been a much more conservative procedure. I think when one first sees these bleeding kidneys he is anxious to take them out but later one is not so anxious to do so. I remember one man who had a one-sided hematuria, the result of an infarction due to a thrombosis. We tried conservative treatment but we had to do an emergency nephrectomy later and had a close call with him. In the majority of these cases of so-called essential hematuria that I have seen, the bleeding has been due to a nephritis of some type and has usually ceased with decapsulation or nephrostomy and I am an advocate of these procedures in this condition.

DR. ROGER GRAVES, Boston: In connection with the matter of the two-stage operation for badly damaged, infected kidneys, I am sure there can be no doubt about the value of this procedure, as Dr. Crosbie and Dr. Chute have emphasized. I had recently such a case in which, as was true in Dr. Merrill's patient, there was in addition to the pyonephrosis a very greatly dilated pyoureter, which communicated without interruption with the equally dilated renal pelvis. In this case I found it very useful to do, instead of a nephrostomy for the first stage, a ureterostomy at a lower level, in the flank. That operation with a tube introduced into the ureter and up into the kidney, served just as well to reduce sepsis and gain the general improvement that one looks for under these circumstances, and the second-stage nephrectomy done subsequently was much easier and safer through a clean, fresh field.

DR. J. DELLINGER BARNEY, Boston: In connection with Dr. Peters' very interesting paper, I would like to report very briefly one case that

illustrates how long these so-called essential hematurias may go on.

Fifteen years ago I saw a woman of about 25 years of age at the hospital. She had a history of hematuria at intervals lasting for some time. Examination showed nothing abnormal in the right kidney from which this blood was coming. There was, however, a considerable amount of mobility and possibly a little dilatation of the pelvis but beyond that nothing abnormal could be detected. We thought that we might cure her by decapsulation and at the same time put her kidney into a better position. I accordingly did that and found a perfectly normal appearing kidney. I decapsulated it and suspended it in the usual manner. She did not show up again until perhaps a year ago when she came in and told me that she had had hematuria off and on ever since operation but no other symptoms, no pain or trouble in any way but every six months to a year she would have an attack of hematuria lasting 2-3 days. Her general health had been excellent. This time she was cystoscoped in an effort to determine just where the blood did come from and finally we got her when she was bleeding and saw it coming from the right side. Again she was studied most carefully with pyelograms, etc., and everything found to be normal. The kidney had dropped a little but not much.

Thinking that we possibly were dealing with a tumor that had been latent all this time or some condition that might be relieved, I operated on her again and exposed the kidney very completely, examined it with all the care I could by palpation and otherwise and found a perfectly normal organ in every way. I opened the pelvis and probed it very carefully to see if there was a stone in it but no stone could be found. There was no pus in the urine. The kidney was thoroughly examined, decapsulated and put into a better position. That was about 6 months ago and I think she has had no bleeding since.

I just mention that as a case of hematuria of unknown origin which has been observed pretty carefully, on two occasions with actual suspension, over a period of something like fifteen years. We don't know the answer yet.

DR. FELTON, Worcester: I would like to ask why people decapsulate the kidney. Is there something behind it or is it in sheer desperation?

DR. VINCENT VERMOOTEN, New Haven: In connection with Dr. Merrill's paper, I had a similar experience except that the case was not so severe and the patient was consequently not in a desperate condition.

He was a boy of 13 years who gave a history of having a sickness at the age of 2½ which was diagnosed as malaria, with epigastric pain, nausea and vomiting and malarial attacks for about two years. After that he was apparently well until about four years ago when he began having attacks of pain in his left side. On cystoscopic examination he was found to have a small ureterocele on the right side with a pinpoint opening into the bladder and with that a condition similar to the one Dr. Graves just described of the ureter dilated all the way down through the kidney pelvis to the bladder.

At the time of operation we thought it more satisfactory to remove the entire organ including the ureter so that he did not have a large pocket of pus at the lower end of the ureter. Pyelogram showed the ureter tremendously lengthened and there was a big pyonephrosis and pyoureter all the way down to the bladder. Kidney pelvis was normal.

This slide shows the specimen that was removed. You see it is an entirely useless organ with the kidney substance practically only about 1 mm. in thickness. It was badly infected with colon bacillus.

DR. PETERS: I expected to arouse a great deal of controversy with regard to the nephrectomy. If I had done a nephrostomy on this woman, and if the bleeding had not stopped, we would have had to do a nephrectomy and her condition was such that we would have killed her in so doing.

Regarding the x-ray treatment, I think there is a good deal in it. I have not had the chance of trying it, but I think it offers a great deal of hope. We use it frequently in bleeding from carcinomas and we get good results so I see no reason why it should not be efficient in cases of this kind.

I was glad to hear Dr. Chute say these cases are a type of nephritis. I think so, too.

Regarding decapsulation, I suppose the essential point is to reduce a very large, congested organ and I think that probably is what it does. It establishes a collateral circulation outside the capsule.

REMARKS UPON CANCER OF THE PROSTATE WITH REPORTS OF CASES*

BY ALFRED MITCHELL, JR., M.D.†

"THE frequency of prostatic cancer is truly alarming" quoting Young. We may say that roughly and for practical purposes 20% of all men over sixty will have symptoms due to prostatic trouble and that of these, 20% will have cancer of the prostate; in other words, four men in every hundred who live to be sixty years old, will have cancer of the prostate.

As early recognition and prompt and thorough surgical interference offers patients afflicted with cancer the only real hope of a permanent cure, the making of an early diagnosis of prostatic carcinoma is of the highest importance. Before discussing the subject of diagnosis, I wish to take up briefly some of the features of the pathology of prostatic carcinoma as they have bearing upon certain points which I wish to emphasize later and which would seem to make early recognition of cancer in a certain

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percentage of cases very difficult, if not impossible.

Geraghty and Young, in 1911, after extensive investigation and examination of many pathological specimens, came to the conclusion that carcinoma of the prostate always had origin in the posterior lobe or in a portion of the gland not involved in the adenomatous process, and Geraghty, later in a series of 450 cases, noted its association with hypertrophy in 75% of cases but considered the two conditions entirely independent and that when cancer was found in the adenomatous lobes, it was due to direct extension from the posterior lobe and this view has been generally accepted by Urologists in the U. S.

In a recent article in the *Journal of Urology*, Dossot of the Necker Hospital and associate of Prof. Legueu, after study of numerous specimens, takes decided exceptions to this view and concludes from his series that in 11.6% of cancer cases, prostatic adenoma undergoes cancerous degeneration and that numerous intermediary stages are found between benign and malignant lesions and that two types of prostatic cancer should be distinguished; urethroprostatic adenoid cancer which develops from the adenomatous glands of the prostatic urethra, and true cancer of the prostate which develops from the prostate itself.

Dossot reports twenty-eight cases of suprapubic prostatectomy done by Professor Legueu in which cancer was entirely unexpected, when pathological examination demonstrated carcinoma. Of these twenty-eight cases, 9 are dead, 7 have had recurrences, and in 12 a cure has been maintained, the longest period being 6½ years, the shortest 17 months.

Bugbee, in an article printed in the October, 1929 number of the *Journal of Urology*, under the title of "Cases of Unsuspected Carcinoma of the Prostate Discovered on Microscopic Section", reports seven cases of this type. In four cases, it was entirely unsuspected; in the other three, he had noticed one or more areas or small nodules in the lateral lobes upon palpation, which were slightly indurated and in which the possibility of malignancy was considered. Bugbee's cases are all clinically well, the duration being from eight years to a few months.

Albarran and Halle report that small masses of carcinoma are found in the hyperplastic tissue in the lateral lobes of the prostate after prostatectomy in 10% of cases.

Keyes says that it is not clear whether carcinoma begins in the posterior lobe as Geraghty taught or in the lateral lobes but states that by the time it is clinically recognizable, it has extended to the posterior lobe.

The reports of Dossot and Bugbee were of much interest to me, and in looking over records of my prostatectomies, which I regret were very incomplete, as in many cases operated out of town as well as in Portland, where prostates removed were apparently benign in character, judging from their gross appearance, they were not submitted to microscopic section. I was able to find three cases in which at the time of operation cancer was entirely unsuspected, and while I realize they are not of special interest as, undoubtedly, many of you have met with cases of a similar type, for the purpose of illustration, I will report them very briefly.

CASE 1. Mr. E. D., age 67, admitted to the Hospital on Feb. 15, 1924, complaining of very frequent, painful and difficult urination. Gives history of urinary symptoms since 1890. Had retention of urine in Feb. 1910, which persisted and in May 1910, perineal prostatectomy was performed by Dr. Arthur Cabot. Patient's condition much improved by operation but gradually began to have return of his former symptoms and at present time has a large residual urine, there are evidences of kidney disturbances, ankles are edematous and general health impaired. Rectal examination shows a large prostate of the adenomatous type, regular in outline. Patient prepared for operation and on Feb. 24 and March 12, two-stage prostatectomy. Discharged from hospital April 8 in good condition. Pathological report: hypertrophy of prostate with early malignant changes. An interesting feature of this case is the fact of the recurrence of the prostatic hypertrophy. I have heard from the patient fairly recently and understand that he is in a very comfortable condition and apparently in good health.

CASE 2. J. S. M., age 75, admitted to hospital in Dec. 1924, suffering from chronic urinary retention which has existed for a number of years. At present time, passes catheter at least every hour, at times more frequently. Bladder capacity very small. Prostate by rectal examination much enlarged, regular outline, adenomatous in type. Urine very foul. X-ray shows presence of a vesical calculus, size of small walnut. A suprapubic cystotomy was made, the calculus removed and two weeks later, the prostate enucleated. Patient's convalescence was slow but he eventually made a good recovery with excellent functional result. Pathologist's report: early malignancy. The patient died about one year and a half ago of pneumonia. Up to the time of his death was free from bladder symptoms.

CASE No. 3. P. J., age 68, admitted to hospital Nov. 5, 1926, suffering from acute retention. Has had gradually increasing frequency and difficult urination for a number of months. Bladder distended above umbilicus. Rectal examination shows a large prostate of the adenomatous type. Bladder decompressed and two-stage prostatectomy on Nov. 20 and Dec. 2. Patient discharged Dec. 24 with a satisfactory result. Pathological report: early carcinoma. The patient is living, in good health and active in his business. I operated upon this man's brother 20 years previously for prostatic obstruction, doing a perineal operation, one of my earliest cases. This man died of pneumonia while his brother was in the hospital.

Although of an entirely different type, I will report two other cases of prostatic cancer which appear to me to be unusual.

P. S. T., age 46. Admitted to hospital Nov. 1, 1929, on account of retention of urine and perineal abscess. In 1914, patient was operated upon by me for urethral stricture and scrotal fistula at that time, giving a history of operation for urethral stricture

three years previously. Gonorrheal infection denied but claims an injury in perineal region a number of years ago. Although instructed upon his discharge from the hospital to have sounds passed regularly, he had not been instrumented for years. Patient in poor physical condition, has been confined to his bed for six weeks on account of the perineal abscess. Upon external examination, the perineum was found to be much infiltrated with several fistulous openings from which pus was exuding. The bladder was distended to the umbilicus. An immediate perineal section was made, the fistulae were incised freely and a drainage tube introduced into the bladder. Although fairly comfortable as a result of operation, the patient did not improve. There was a copious discharge of pus and the tissues did not heal. Thinking that the drainage had not been sufficiently thorough, he was taken to the operating room a second time. The tissues were found to be very necrotic and the abscess cavities extended along the anterior rectal wall and into the prostate itself. By rectal examination, the prostate appeared to be enlarged and soft and a granular area, the size of a dime, could be felt upon the anterior rectal wall which was adherent to the prostate. Drains were introduced into the abscess cavities and the perineal tube replaced. There was not any improvement following the second procedure. The wound continued to discharge freely, the tissues to break down and the odor became extremely offensive. The patient complained of severe pains in his legs. Malignancy was suspected and x-ray was taken to determine if metastasis had occurred, which proved negative. Dr. Peters saw the case with me and he also felt that it might be of an unusual cancerous type, and as the perineal drainage was becoming unsatisfactory, it was decided to open the bladder suprapubically to make the patient more comfortable. This was done Jan. 1, 1930. Upon opening the bladder and exploring, the prostatic tissue was found to be very friable and necrotic, fragments were removed for examination, which the pathologist reported as being epidermoid carcinoma. The patient died Jan. 11, 1930. An autopsy was not obtainable. The occurrence of cancer of the prostate following a neglected stricture of long standing would appear to be a rare condition and I would like to ask the members present if they have encountered cases of this type.

The second case, H. K., age 43. July 1928, called at my office, his only complaint being that when voiding urine, the stream was preceded by blood which was followed by clear urine and blood appeared at the meatus at the completion of the act. There was not any urethral irritation or frequency of urination. Upon rectal examination, the prostate was apparently normal in size and consistency. A urethroscopy was made and although hemorrhage made accurate observation rather difficult, what appeared to be a papillomatous growth was located in the prostatic urethra, which was later fulgurated with some slight improvement so far as the bleeding was concerned but it later increased in amount. The patient was told that surgery might be indicated and a consultation suggested, but upon the advice of his employer, he transferred himself to another doctor, not a urologist, and remained under his care for a number of months. He later consulted a general surgeon in another city, who, I understand removed his prostate and found it to be cancerous. The patient lived but a month after the operation. I regret that it was not possible for me to follow this case, but it would seem that the cancer originated in the urethra and later invaded the gland.

The diagnosis of advanced cases of prostatic cancer usually presents but little difficulty, the symptoms and findings by rectal examination are so characteristic and familiar to you all that I will not dwell upon them.

In the less advanced cases, it may not be so simple a matter. Young reports nineteen cases in a series of 250 cases of carcinoma of the prostate, which were entirely unsuspected before operation, and in an analysis of a number of these concludes that a few of the cases of soft carcinoma and of very small carcinoma will always escape diagnosis but states that attention to certain points in the rectal examination will minimize errors, such as induration with adhesions and fixation of the prostate, nodules firmer than the surrounding prostate, thickening of the membranous urethra, thickening and induration about the tip of the seminal vesicles, examination with the fingers in the rectum and instrument in the urethra, to determine thickening of the posterior lobes as emphasized by Geraghty. He says there is nothing characteristic about the prostatic secretion in carcinoma and also mentions that tuberculosis, chronic prostatitis and prostatic calculi may be mistaken for prostatic cancer. He reports two cases of tuberculosis of the prostate mistakenly diagnosed as cancer and subjected to operation.

In certain early cases of prostatic cancer, the patient's health may not be affected to an appreciable degree and it may be discovered only in the way of a general physical examination.

In suspicious cases an x-ray of the pelvis and lumbar spine is now more or less of a routine and should be followed. A recent case at the Maine General Hospital showed very extensive metastasis when there was but little evidence of disease of the prostate.

Referring to the type of case mentioned in the early part of this paper where prostatic adenoma undergoes cancerous degeneration which in the large majority of cases is not recognized until microscopic examination after operation, is it not a fair inference that if these prostates had been unmolested, the degenerative changes would have gradually extended to the periphery of the glands and from them to surrounding structures? Is it not more than a possibility that many of the advanced cases of carcinoma seen by us, particularly, of the large nodular type, may have had a similar origin? And if, as claimed by competent observers, small masses of carcinoma are found in the lateral lobes of 10% or more of prostates after removal, when the disease was not even suspected, is it not true that the percentage of cases of cancer originating in this manner may be much larger than generally considered? This would lead one to think that every adenomatous prostate should be regarded with a certain amount of suspicion as to its future, and as the cases where the small masses are found in the lateral lobes, as a rule, recover and might be judged as cured so far as recurrence is concerned, should not one consider that if men of the prostatic age,

particularly, those with early symptoms of obstruction could be advised to have more or less routine rectal examinations and that in cases where hypertrophy and definite obstructive symptoms were present, submitted to operation earlier than is now customary, would not a certain percentage of these cases be saved from a lingering and painful illness with eventually death from cancer?

Discussion

Dr. Clyde Deming, New Haven: I feel in the treatment of carcinoma of the prostate that we, as urologists, should at least take two steps. First we should certainly advance the idea of yearly rectal examinations as Dr. Mitchell has recommended, and secondly, the total removal of carcinoma of the prostate in the cases where the tumor is small, confined to the prostate or the lower portion of the seminal vesicles. It seems to me that surgery for carcinoma of the prostate is about 50 years behind surgery for carcinoma of the breast. Statistics show an improvement in the surgical treatment of carcinoma of the breast and where the operation is done early there is a high percentage of cure. We, as urologists, certainly should keep that in mind and take a step which would advance the percentage of cures for carcinoma of the prostate.

Radium and x-ray have failed in a large proportion of cases and many do nothing but a suprapubic drainage which is only a palliative relief for the patient.

We have outlined our treatment as follows: In those cases which have large amounts of residual urine with a large carcinoma and demonstrable x-ray metastases, we do a suprapubic drainage. In those cases which show quite a large tumor without demonstrable x-ray metastases we do a conservative operation which removes or tunnels through the prostatic carcinoma. This allows the patient's wound to heal, he has a number of months or perhaps 2 or 3 years of comfort and he has control of urination. Such a patient may void perhaps a little more often than usual but we have quite a number who still milk their cows and take care of their chickens for one, two or two and a half years after such an operation.

It seems to me that a complete removal of prostate and seminal vesicles offers an opportunity for cure. We rarely see cases in New Haven until they have a carcinoma of the prostate as big as a grapefruit, so our opportunities for doing radical procedures have been extremely limited. Certainly we ought to further the possibility of an early diagnosis by frequent examinations and the treatment where possible with a radical excision.

Dr. A. H. Crosbie, Boston: I am glad to have Dr. Deming stress the importance of a palliative perineal operation on those cases that are too far advanced for a total removal of the prostate. It is an operation that Dr. Chute has been doing for many years and for that reason many of his cases for a number of years get comfort, and I have had a good many myself. It certainly is a very valuable operation and a much more comfortable procedure for the patient than a permanent suprapubic drainage.

Dr. Roger Graves, Boston: It seems to me that Dr. Mitchell raised a very important question, or at least voiced a very significant hope when he said that in the future, prostatectomy would be performed at an earlier date, on the average, than has been true in the past. I believe very firmly that along that line will come the next great advance in prostatic surgery and that as time goes on we will be ready to advise this operation in the relatively early stages of the disease. Obviously it is better to remove the prostate in an individual in his early sixties, when he can be left with relatively normal heart and kidneys than to do the same operation late in life, when so often irreparable damage has been done, so far as his circulatory and renal systems are concerned. When there are unmistakable signs of true prostatic hypertrophy, definite symptoms and a significant amount of residual urine, I believe that some form of prostatectomy should be urged, depending upon the individual case. Dr. Mitchell's idea, that another argument in support of this lies in the removal of the early cancer which might otherwise be allowed to go on to an advanced stage, is a very important one.

Ewing places the figures of the incidence of malignant disease at a higher level than those which Dr. Mitchell quoted. He says definitely that in his opinion the most important predisposing cause of carcinoma in the prostate, is benign hypertrophy, and that a cross section of many pathological studies finds cancer in about 19% of the glands that are removed surgically.

I cannot agree with Dr. Deming as to the inadequacy of radium, nor do I feel that he is justified in condemning it with so much finality. I am quite certain that in those very early cases where carcinoma can be diagnosed clinically but in which the cancer is still definitely confined to the gland capsule, a radical operation for the extirpation of the entire mass is good surgery and sounder practice than any other. Like Dr. Deming, I confess the difficulty in seeing many patients who fall into this group. In the case of those who already have a considerable prostatic mass with extension outside the capsule of the gland into the seminal vesicle area and back of the bladder, I do not agree that it is always necessary or even that it is often necessary to consign these patients at once to permanent suprapubic drainage. In my experience it is frequently possible to obtain very satisfactory palliation and to avoid such extreme measures by the use of radiation. The radium must

be very carefully applied and better than in any other way applied accurately under vision through a perineal exposure or in some cases through a suprapubic cystotomy. I still feel that in carcinoma of the prostate which has gone beyond the capsule and will not lend itself to radical surgery, radium associated with deep x-ray is of the greatest value and that in those cases surgery ought to be reserved for the surgery of necessity to relieve obstruction, and not employed as the surgery of election before the time of need has arrived.

DR. G. G. SMITH, Boston: I think one thing we can count on in a great majority of cases of carcinoma of the prostate is the fact that the carcinoma is relatively slow-growing and I think it is probable that in many of the cases where the conservative perineal operation or suprapubic operation has been employed the relief was due chiefly to a removal of the concomitant hypertrophy. The diagnosis as to the exact pathological condition present I think must be gone into with more care in these cases. If there is a definite amount of hypertrophy with the carcinoma, then the removal of the hypertrophied lobes is distinctly of value but in a good many of these cases, as I have seen them, there has been no such concomitant hypertrophy and the obstruction consists of a tight bladder neck and an elevated median bar. In these cases I think the removal of this part is more effective by the cautery punch than by any other method. I have recently seen two patients who were suffering a great deal, both of whom had their obstructions punched out and were given 2 or 3 series of deep x-ray therapy, who lived 14 and 16 months respectively and died very peacefully with uremia without having any more pain or urinary symptoms.

From my own experience I cannot feel much enthusiasm about the opinion that carcinoma starts in hypertrophied lateral lobes. It seems to me that if that were the case we would get a great many more pathological reports showing carcinoma in the typically clinical benign prostates and it is my impression that we very seldom get this sort of report. We almost always are strongly suspicious from the rectal feeling that the growth is malignant in cases in which such reports are given. I read Dosset's article with much interest and it did not seem to me to fit in at all with the clinical experience we have in this country. Perhaps carcinoma of the prostate is different here than it is in France.

It does not seem to me that early prostatectomy for the sake of preventing the development of carcinoma is a very sound idea. I believe that Geraghty was right when he said that 80% of cancers of the prostate began in the posterior lobe.

DR. ARTHUR CHUTE, Boston: It has been suggested that it is easy to diagnose carcinoma of the prostate; in the advanced cases, yes, but often not in the early cases. I shall never forget one man who came to me in the days when I thought that discomfort referred to the pelvis was due often to chronic prostatitis or something of that sort and that if one kept massaging such a prostate he would probably do the patient good. I remember following this man a long time before it dawned upon me that his prostate was open to suspicion. A little later I felt perfectly sure it was carcinomatous and did a perineal removal; it was carcinoma microscopically. This patient lived nearly eight years after operation and is the only patient I know of who apparently had no local recurrence of his disease but died of metastatic carcinoma involving the bones to a large extent. I think our ability to recognize prostatic carcinoma early is pretty doubtful, even if we could get people to come around for periodic examination. While I do not want to be much of a pessimist, I doubt if even under these conditions we would recognize these cases early and I do not feel sure that we would cure them if we did: it is quite a difficult thing to do.

If one examines certain cases of carcinoma of the prostate that have a considerable retention, one will often find an edema that marks the character of the prostate and leads one to think he has to do with a benign process. It is only after one drains a case of this sort and the oedema has cleared up that one finds he has to do with a perfectly characteristic carcinoma of the prostate.

A word about the palliative treatment of carcinoma of the prostate. While I think we are going to be able to cure a few patients with prostatic carcinoma by doing the operation Dr. Smith has mentioned, I do not think we are going to see many on whom we can carry out this procedure; most will be too far advanced. I think in a certain number of cases in which cure is impossible we can often make a lot of difference in the patient's welfare and comfort by a palliative operation. Of late I have carried out the perineal removal of as much of the diseased tissue as I can get, once, twice, or even three times. Of course after a third operation these patients will be incontinent, as they may be even after the first, but a man fitted with a urinal can get along more comfortably than a man with a urinary fistula. At best these patients have but a relatively short time to live and if we can give one, two or three years of moderate comfort, by a conservative operation, I believe it is well worth while. In our enthusiasm about radium, we should not forget that there are other palliative measures that may help a lot.

NEW ENGLAND SURGICAL SOCIETY

ABSCESS OF THE SPLEEN*

BY IRVING J. WALKER, M.D.†

THIS patient, a boy of 14, entered the Boston City Hospital on January 30, 1930, because of an earache of three days' duration. During this time he also had been drowsy, and his family had observed that he was unable to name certain objects or to remember the names of certain members of the family. There was a history of a discharging left ear at intervals during the past two and a half years.

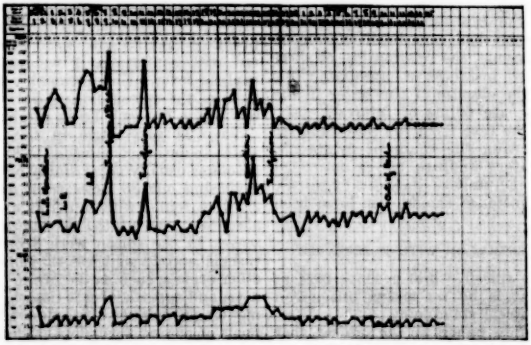
His present illness has been accompanied by fever, malaise, and drowsiness. On the day after entrance to the Hospital a left radical mastoid operation was done. The internal jugular vein on the left side was ligated, following which the lateral sinus on the same side was opened. Pus was found to be oozing from the lateral sinus. There was also a small extradural abscess. Blood culture before operation was negative. Culture from the extradural abscess showed the streptococcus hemolyticus. The temperature and pulse dropped somewhat during the next few days. His drowsiness diminished, and the aphasia improved.

On the fourth day after operation, his temperature rose again. Blood cultures on February 2 and 5 showed the streptococcus hemolyticus. The patient was transfused with 250 c.c. of whole blood on the afternoon of February 7. One hour later he had a severe chill with a rise of temperature to 106° by axilla. The temperature fell to 97° next morning. During the next three days he apparently improved.

On the morning of February 11, there was again a slight rise in temperature. That afternoon he was once more transfused, with a resulting chill and temperature rise to 105°. There was then a marked improvement in the general condition of the patient.

At 2:00 A. M. on February 13, the patient complained of a sudden sharp pain in the left upper quadrant of the abdomen. A tentative diagnosis was made of splenic infarct as a complication of septicemia. This pain in the left upper abdomen was more or less intermittent and was improved February 16 and February 17, but returned with greater severity than ever on February 18. On this date pain in the left shoulder was first noted. It was also observed that the pain in the left upper quadrant was made worse by deep inspiration and cough.

An x-ray on February 20 demonstrated the lungs to be negative but the left diaphragm slightly elevated. On February 21 marked tenderness and spasm developed in the left upper quadrant, together with some costovertebral tenderness. Repeated examinations of the urine had revealed nothing abnormal. The white count which had varied from 9000 to 14000, rose to 18000 on February 21. It was felt that the patient was developing a splenic abscess, but that operation should be delayed in order to eliminate other possibilities, especially that of perinephritic abscess. Vomiting and abdominal distention had at no time been prominent symptoms. From its onset the pain referred to the left shoulder had been almost constant. On the morning of February 23 the costovertebral tenderness was more marked than that in the left upper quadrant of the abdomen. Operation was advised with a primary diagnosis of perinephritic abscess by the surgeons, and a second possibility of abscess of the spleen.



Operation: February 23.

An exploratory kidney incision revealed nothing abnormal either in the kidney or perinephritic space. This incision was then closed and another made into the peritoneal cavity just below and parallel to the left costal border. Exploration of the peritoneal cavity was negative except for the region of the spleen. The latter was somewhat enlarged. On the posterior aspect near the outer border was an abscess about two inches long and one inch deep, which had been walled off by adhesions between the spleen itself and the diaphragm. This abscess cavity contained about three ounces of pus. Growth later from a culture of this pus showed the streptococcus hemolyticus. The

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abscess was drained and the wound closed in layers except for the drainage sinus.

The convalescence from that time was uneventful. It is of interest to note that following the transfusion on February 27 there was no elevation of temperature and no chill as had been the case following the two previous transfusions. The patient was discharged from the Hospital on March 14, 1930. No feature of interest has occurred from that date until the present.

The sequence of pathological events in the above case was undoubtedly as follows: a chronic discharging ear which resulted in acute mastoiditis, and this in turn by a lateral sinus infection with a subsequent extradural abscess and ensuing septicemia with a splenic infarct as a complication, which infarct broke down resulting in a splenic abscess. This abscess after drainage and the fact that the blood stream infection cleared up resulted in recovery of the patient.

Incidents of the case, such as whether repeated transfusions had any bearing in combatting the septicemia, the relationship of these transfusions in two instances to immediate chills and fever, and the absence of the latter in the final transfusion, are points of interest.

In reviewing the case from the postoperative standpoint, following the chain of symptoms, signs, and laboratory findings, one is impressed by the fact that the positive diagnosis of splenic abscess in this instance should not have been difficult.

GENERAL CONSIDERATION WITH REFERENCES

Abscess of the spleen, while perhaps rare as a surgical entity, is by no means uncommon from the pathological standpoint.

One of the earliest papers on the subject, that of Grand-Mourset[1], in 1885, collected 57 cases. Others contributing a large series of cases are Esau[2], 17 cases; Küttner[3], 116 cases; Wallace[4], over 100 cases; and Inlow[5], 24 cases. Numerous other writers have contributed individually from one to ten cases.

Billings[6], in 3600 autopsies at the Pennsylvania Hospital, reported 24 instances of splenic abscess. In 7914 autopsies at The Boston City Hospital, we find 30 cases of abscess of the spleen, an incidence of .4 of 1%. The surgical records of this Hospital show that there have been 2 cases of splenic abscess found at operation. These two are included in our series reviewed at autopsy.

The causes of abscess of the spleen are for the most part related to blood stream infection. Elting[7] states that almost all pyogenic bacteria, except gonococci, have been isolated in splenic abscess.

Inlow collected from the literature 23 cases, and added one of his own, in which the etiological factor was rupture of the spleen with secondary infection of the haematoma.

Küttner produced splenic abscess by injecting various organisms into the splenic artery and the spleen itself, as well as by traumatizing the spleen without breaking the capsule. This experimental work would therefore substantiate the clinical findings that splenic abscess may be the result of septicemia; also that direct infection of the spleen with abscess formation as in one of our cases may occur, where an injury to the spleen took place in the course of nephrectomy for an infected kidney, resulting in an abscess of the spleen. This would correspond with the findings of Inlow that trauma of the spleen with invasion of organisms, but not necessarily with a positive blood culture, may result in splenic abscess.

In 26 of our cases, the abscess was definitely associated with septicemia. Since blood cultures and cultures of the abscess itself had not been done in the four other cases, the true incidence of septicemia was undoubtedly higher. In analyzing the clinical records of our series, it is probable that 28 out of 30 cases were associated with septicemia if we include 2 cases of typhoid fever. Unquestionably most cases of abscess of the spleen arising during the course of septicemia are embolic in origin.

There is very little in the literature from which to derive conclusions as to whether splenic abscesses usually occur singly or in numbers. In reviewing our 30 cases from autopsy material, 22 were found with multiple and 8 with single abscesses. All of the 22 showing multiple abscesses of the spleen were proven cases of septicemia and 18 of these 22 showed abscesses in other organs, such as the brain, liver, lungs, kidneys, and superficial soft tissues. Of the 8 showing single splenic abscess, 4 showed no other focus of abscess formation. These 4 solitary abscesses occurred as complications of the following diseases:

1 direct infection from injury of the spleen in the course of nephrectomy for an infected kidney.
1 followed mastoid disease. With the case reported in this paper, we thus have two cases of solitary abscess of the spleen as a complication of mastoid disease, both of hemolytic streptococcus origin.
2 cases occurring in the course of typhoid fever.

In 31 cases including the one herein reported, the percentage of chance of having a solitary splenic abscess without abscess formation in other organs of the body is therefore approximately 16.1%. This figure is of particular importance to the surgeon in selecting cases of splenic abscess suitable for operation, and has considerable bearing on the prognosis in cases of splenic abscess in general.

Elting has shown that abscesses of the spleen resulting from trauma are usually large and solitary, and are for the most part not confined

to the spleen but occupy a portion of the left subdiaphragmatic space.

SYMPTOMS AND SIGNS

Since most cases of abscess of the spleen follow septicemia or trauma, attention should be directed to the importance of a careful history. In the case of septicemia, most instances of splenic abscess result from the breaking down of a splenic infarct, where the history of sudden sharp pain referred to the spleen or at least to the upper left quadrant is of significance. However, Fauntleroy and Propping[8] report absence of pain in cases of splenic abscess. Billings has called attention to the fact that abscesses deeply situated and not involving the capsule may produce little or no pain. Where the abscess has perforated the capsule and lies against the diaphragm, left shoulder pain (Kehr's sign) is of great significance. In such cases signs of pleural irritation may be expected.

Enlargement of the spleen or its displacement downwards occurs only in considerable involvement of the organ itself or where a large accumulation of pus beneath the diaphragm has pushed the spleen down.

Localized tenderness and spasm should be present in the left upper quadrant of the abdomen.

General symptoms of infection, such as elevation of temperature, pulse, chills, and sweats, with increase of the white count, together with localized symptoms of infection in the region of the spleen should further favor abscess formation of this organ.

Elevation or fixation of the diaphragm as demonstrated by x-rays are likewise of value in diagnosis.

Exploratory aspiration when positive is of the greatest importance. A negative finding should not be taken too seriously as ruling out abscess, since because of the small size of the latter or because of its location within the spleen a negative finding would not be unexpected. This procedure is not without danger, especially when carried out from the lateral aspect of the chest, the danger being that of empyema resulting from infection from contaminating the pleural cavity.

TREATMENT

Where abscess of the spleen is diagnosed and no other inaccessible foci of infection are apparent or suspected, and where the patient is deemed at least a fair surgical risk, the treatment is surgical, either splenotomy or splenectomy.

Cutler[9], quoting Johnson, Balfour, and Elting, favors splenotomy.

Hagen[10] reports eight cases of splenectomy with one death.

Finkelstein[11] reports 61 splenotomies with 48 recoveries and 13 deaths; and 11 splenectomies with 8 recoveries and 3 deaths.

Billings, analyzing 55 cases, reports 51 splenotomies with 4 deaths, and 4 splenectomies with 3 deaths.

It would seem therefore, that splenotomy should be the operation of choice and that splenectomy should be limited to the cases of splenic abscess where the infection is limited to the organ itself and where the spleen from the technical aspect can be easily removed without danger of spreading the infection to the general peritoneal cavity.

Three approaches are offered in operating on splenic abscess:

(1) The abdominal route is most favored since it allows exploration of the subdiaphragmatic space as well as easy access to the spleen in case splenectomy is decided upon. The chief objection to this route is the possibility of infecting the general peritoneal cavity.

(2) The transpleural route offers a more direct approach to an abscess which has extended beyond the limit of the spleen itself, resulting in a considerable accumulation of pus in the subdiaphragmatic space. If the layers of the pleura are not adherent, this approach is best carried out in two stages. The disadvantages of this operation are the possibility of infecting the pleural cavity with a resulting empyema, the inability to explore the spleen as well as through the abdominal route, and the impracticability of splenectomy.

(3) The retroperitoneal and subpleural route carried out by incision from the tip of the 12th rib along the lower margin of the 11th rib with blunt dissection through the upper portion of the paranephritic tissues close to the diaphragm, finally opening into the abscess through the peritoneum, is one method of draining a subdiaphragmatic abscess due to abscess of the spleen. This route does not allow splenectomy.

PROGNOSIS

The prognosis in abscess of the spleen depends more upon the course of the disease which has produced the splenic infection than any other one factor. The mortality in cases of abscess of the spleen treated by surgery differs markedly with authorities reporting a considerable series, varying from 9% to 38%. A fair average seems to be between 20% and 25%. This percentage can undoubtedly be lowered by more discriminate choice of the cases of splenic abscess suitable for surgery.

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Discussion

"Abscess of the Spleen"

Cases from The Massachusetts General Hospital

Reported by

Dr. Richard H. Miller

ABSCESS OF THE SPLEEN

Cases of another diagnosis and where Abscess of the Spleen was only found in the autopsy. These were found in the Path. Lab. Records.

Auto. No.	House No.	Date	Clinical Diagnosis	Autopsy Diagnosis
4705	W. S. 263577	1924	Empyema.	Evacuated Empyema. Abs. of the rt. lung. Abs. of liver and spleen.
4293	E. S. 247491	1922	Pelvic phlebitis. Staphy. Septicemia.	Staphylococcus septicemia. Subsplenic abscess.
4157	W. S. 240543	1921	Lung abscess.	Bronchiectasis, abs. rt. lung. Chronic pneumonia. Chronic pleuritis. Chronic endocarditis of aortic valve. Abs. of spleen and kidneys.
2915	W. S. 177924	1911	Otitis Media.	Abscess of lungs. Empyema, lt. Subdiaphragmatic abscess lt. Abscess of spleen.
2750	S. S. 173119	1910	———	Op. wd. Resection lt. kidney. Evacuated subdiaphragmatic abscess. Abscess of spleen. Soft hyperplastic spleen.
2762	E. S. 173782	1911	———	Case of splenic flexure with perforation. Diffuse fibro-purulent peritonitis. Abs. of spleen. Soft hyper. spleen.
1470	W. S. 144196	1905	———	Adeno-carcinoma of the splenic flexure of the colon with extension into the spleen. Abscess of the spleen.
1290	E. S. 139839	1904	———	Small opening in caecum with necrosis of the adjoining tissues and suppurative thrombophlebitis of the portal vein and its radicles. Multiple abs. of liver and spleen.
470	S. S. Vol. 33 p. 46	1899	———	Disseminated actinomycosis. Phrenic abs. in region of spleen, abs. lt. kidney.
299	W. S. Vol. 335 p. 160	1898	———	Suppurative mastoiditis. Abs. in liver and spleen.
5273	E. S. 288430	1928	Acute miliary T. B.	Septicemia. Miliary abs. in heart, spleen and kidney.

3 Cases in House Records

E. C. E. S. 256971(RA). Age 55. Color white. Adm. Aug. 10, 1923. Disch. Aug. 21, 1923. Diagnosis: Pyelitis, Lt. jugular thrombosis. Adm. June 25, 1923. Disch. July 7, 1923. (This was when he was in the first time.) After leaving the hospital the pt. returned to E. & E. Infirmary where they cared for small abscess in the old mastoid wound. Was disch. 3 days later. Been at Soldiers Home. Comfortable up to 3 weeks ago. Chills and vomiting. Localized pain in lt. flank under last 2 ribs and extending to spinal column.

Operation—Explor. Perinephritic abscess.

Aug. 20 pt. became very much worse and died.

Autopsy—Ruptured splenic abscess, general peritonitis and bilateral empyema.

H. S. W. S. 228005. Age 20. Color white. Adm. Jan. 29, 1919. Disch. Feb. 2, 1919.

P. I. Duration 28 days. Fever, high pulse on Jan. 2. Pt. was negative except for discharging ear. On Jan. 19 *spleen felt.*

Operation Jan. 29, 1919. Decompression and exploration lt. cerebrum.

Jan. 31, 1919. L. P. done. ? Meningitis, serum given.

Feb. 2, 1919. Died.

Autopsy—Septicemia. Strep. Abscess of the brain. Abscess of the spleen. Soft hyperplastic spleen. Pneumonia.

M. D. M. R. v329 p. 54. Age not given. Adm. July 27, 1876. Disch. Aug. 19, 1876.

Diagnosis: Abscess of spleen.

Well until 9 weeks ago, pains in joints. Aug. 1. Complains of pain in lt. side. Tumor increasing in size. Now extends 1½ in. below umbilicus on lt. side.

Aug. 19 died.

Autopsy, but unable to find report. This history was not very complete.

INTRAVENOUS USE OF SODIUM AMYTAL

BY FRANCIS M. FINDLAY, M.D.*

INTRAVENOUS anaesthesia has been used abroad for the past ten years. It was first introduced in France, later in Germany, and for the past two years has been employed in some of the larger clinics in this country. Its use has been somewhat limited, as it has been regarded by many as a rather dangerous drug. Our experience at the Cambridge Hospital embraces a small but varied series of cases in which the results were uniformly satisfactory, and I deem the drug of sufficient merit to warrant reporting them at this time.

NECESSITY OF INTRAVENOUS ANAESTHESIA

I wish to state at the onset of this paper that we are not advocating discard of any of the generally accepted anaesthetic agents which have been used so successfully over long periods of time; we are simply offering our experience with an anaesthesia which we feel holds a definite place and has made a distinct contribution to our anaesthetic equipment. The toxic effects of ether, particularly in debilitated patients, or in poor risks, are too well-known to discuss at this point. Local anaesthesia, well administered, has come to have a definite place in the surgical field. Abroad, the majority of surgical operations are done under local anaesthesia. In this country there is an increasing tendency toward the use of a local anaesthesia, but many surgeons and patients object to the mental strain to which the patient is subjected because he is conscious. In spite of this fact, local anaesthesia has made rapid strides and in many clinics is employed by choice. With sodium amytal supplemented by local anaesthetics we feel that we have an ideal anaesthesia for carefully chosen cases, particularly the aged and poor surgical risks.

HISTORICAL

The compounds of the barbituric acid series were first used as anaesthetic agents in 1920 by Redonnet. He used allyliso-propyl-barbiturate-(somnifen). Cerne employed it first in labor, while Bardet and Cleisz developed it for obstetrical use in 1921-23. Fredet and Perlis[1], in 1924, used it in minor surgery and later in major cases. They drew attention to the advantages and disadvantages of intravenous anaesthesia and commented upon its prolonged effect and the restlessness of the patients before full consciousness was regained. They believed the procedure would ultimately be adopted in those cases in which inhalation anaesthetics were contraindicated. In 1925, Schwarz of Washington University used it on animals but never published his results or used it clinically. In 1926, Ian MacDonald reported in the *British Medical Journal* its use in intestinal surgery.

THE DRUG

There was no agreement as to the anaesthetic value of the barbituric acid compounds, however, until 1929, when the sodium salt of iso-amyl-ethyl-barbituric acid was first used clinically. For several years this salt had been employed extensively for animal experimentation. Sodium iso-amyl-ethyl-barbiturate, or sodium amytal as it is more commonly known, has been brought to our attention through the Medical Research Department of the Indianapolis City Hospital and the Eli Lilly Company. The purest form of the sodium salt is marketed as an anhydrous crystalline powder in one-gram ampoules. Ten cubic centimeters of distilled water are used to dissolve the powder, giving a ten per cent. solution. This solution has a hydrogen ion concentration of 9.5 to 9.8, which seems to be an essential to good anaesthesia. If the dilution is varied so as to lower the hydrogen ion concentration, poor anaesthesia results. It is important that the solution be made up fresh and used immediately, as exposure to air decomposes the salt. No solution should be injected which is not absolutely clear. It is recommended that sodium amytal be used chiefly as a basal anaesthesia and in conjunction with other general anaesthetics, and that its use alone as an anaesthetic be restricted to unusual cases. This has been emphasized by the clinical experience of Sise[2], Lundy[3] and Link[4], and by the experimental work of Isenberger[5, 6].

DOSAGE AND ACTION

A definite dose is not known, and, as with all hypnotic drugs, individual susceptibility is a large factor. It has not seemed to us in our series, however, that this factor was as variable as with morphine. The dosage should be determined according to the body weight. The manufacturers recommend a dose of 10 to 15 milligrams per kilo, or 0.07 to 0.105 grains per pound of body weight for most cases, and under no circumstances more than 25 milligrams or 0.175 grains per pound of body weight. The total maximum dose should not exceed 1.6 gram or 25 grains regardless of size. Old age, general debility, and supplementary hypnotics, such as large doses of morphine, render the drug more effective, and smaller amounts are required to produce anaesthesia. In young, vigorous adults who have had no preliminary medication, it is sometimes difficult to obtain complete relaxation with sodium amytal alone. The lethal dose for

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man is not known; therefore extreme caution should be observed. In animals, Eddy[7] has shown that fifty per cent. of the fatal dose is necessary to produce general anaesthesia. Man must be more susceptible to the anaesthetic effects of this drug since he requires only one-third to one-half the amount per kilogram of body weight necessary to produce surgical anaesthesia in animals. Jackson[8] has suggested that the higher psychic centers of man's cerebrum probably accounted for his increased susceptibility over that of the dog. In regard to the heart, circulatory organs and respiratory apparatus, he states that it seems probable that no great difference exists between man and dog. There is probably, then, a wide margin of safety between the anaesthetic and the lethal dose. Isenberger[5, 6] feels that the action of the drug is probably on the hypothalamic portion of the diencephalon as the sleep center and other vegetative functions are located in this area. In our experience we have found the dosage given by the manufacturer to be very low and in some of our earlier cases insufficient to produce anaesthesia. With increasing experience we have tended to use the larger doses, our customary dose being 0.15 to 0.17 grains per pound of body weight. We have found this amount satisfactory in most cases to give good anaesthesia of 40 to 60 minutes' duration. In prolonged operations the drug must be supplemented as its effects wear off. It is very important that the solution administered intravenously be given very slowly, at the rate of not more than 1 c.c. per minute. Its action is most dramatic. The patient to whom you are talking suddenly becomes drowsy, is unable to complete the word he is uttering, and soon falls into a sound sleep. None of the patients have experienced any unpleasantness during induction. There has been no choking, gagging, or even coughing in our series. Among the earlier cases, there was some tendency to give the anaesthesia too rapidly, and deep cyanosis resulted in one or two instances. One patient with a fractured 11th dorsal vertebra and acute bronchitis swallowed his tongue and became quite cyanotic, but with establishment of an adequate airway and the administration of a small amount of oxygen, quickly regained normal color and remained in good condition during the manipulation of his back and the application of the plaster jacket, although he was kept upon his face for over forty minutes. The unsuccessful cases we believe to be due, in a large measure, to a too rapid administration of the drug. It is very important to give it with the finest hypodermic needle; otherwise it is impossible to administer it as slowly as at the rate of 1 c.c. per minute. The manufacturers state that it is impossible to dilute the drug with a larger solution of distilled water, as this will alter the hydrogen ion concentration and destroy the anaesthetic properties. We have found a 20 c.c. syringe with a 24 gauge rustless steel needle most satisfactory. The manufacturers state that the drug can be given intramuscularly. We have not used this route, as we had a large slough in one case when part of the drug became spilled into the tissues of the forearm. Therefore, we wish to emphasize that the drug must only be administered into the vein.

PRELIMINARY MEDICATION

The only preliminary medication we have used has been morphine sulphate, 1/6 or 1/4 grain, an hour and a half, and repeated a half an hour, before the administration of the sodium amytal. We have not wished to complicate the picture by the administration of other drugs. In the cases having morphine, the anaesthesia was pronounced and of longer duration than in those without morphine. Lundy[3] in the Mayo Clinic advocates 10-15 grains of chloretone by mouth, 2-3 hours before operation, followed by a single dose of morphine, grains 1/4 to 1/6, and atropine, grain 1/150. The average duration of the anaesthesia is from forty minutes to one hour. The patient, at the end of this time, usually begins to move and may make a few incoherent remarks, but for the next twelve to twenty-four hours generally sleeps quite soundly. There has been no postoperative nausea or vomiting in any of our cases.

CHANGES

The blood pressure in all of our cases fell from 15 to 30 points during the administration of the drug, but very rapidly returned to the normal level. The pulse rate has been much lower than with the administration of gas or ether. We have been unable to detect any constant changes in the pupillary reflex. The gag reflex disappears only after the anaesthesia is profound. Respirations are always somewhat shallow and the breathing becomes very quiet; it is sometimes very difficult to see or hear the patient breathe. This respiratory depression is, to our mind, the greatest danger in the use of the drug. Lundy[3] warns against the danger of pulmonary edema from the shallow respiration and stresses the careful watching of the tongue so that there will be no cutting off of the airway even temporarily. He reports 1000 cases without a single death due to the drug. However, when the drug is given slowly, according to directions, the respiratory change is not so marked and we have felt the procedure a reasonable and safe one.

RESULTS

With sodium amytal alone, without preliminary medication, we have been able to obtain satisfactory anaesthesia for simple operations, such as reduction of fractures, curettage, rectal operations, and simple operations on the neck, head or extremities. In combination with mor-

phine, we have obtained satisfactory anaesthesia for a radical breast amputation, appendectomy and hernia. In combination with spinal anaesthesia, any abdominal operation that does not require over forty minutes can be readily done. Relaxation is complete, and the patient is entirely unconscious. From our experience we feel that the combination of spinal anaesthesia-subarachnoid block—as Labat terms it—with amytal offers the ideal anaesthesia in the poor risk. The spinal anaesthesia insures complete relaxation of all muscles, while the amytal renders the patient unconscious and assures from twelve to twenty-four hours postoperative comfort. Mason and Baker[9] feel that the chief virtue of the drug is that it frees the patient from mental strain and worry. We concur in this finding but feel that the lessened shock, especially in the aged and feeble, is the greatest contribution. In one or two operations in which there was some delay, it was necessary to administer novocaine infiltration to close the abdominal wall, or supplement the sodium amytal by gas or ether. In two cases we were able to perform radical operations upon patients with hypertension and chronic nephritis without any discomfort or injury. The patients require less postoperative morphine, as the sedative effects of the anaesthesia often last until well into the next day following operation. Two of our patients required secondary operations. Both requested sodium amytal. We have had no deaths attributed to the use of this drug. There were two deaths in this series of thirty cases, one in a cardiac aged 74, who died of cardiac failure four days after drainage of the gall bladder; the second in a seventy-two year old woman with general peritonitis, who developed a volvulus of her small intestine ten days after operation. It does not seem fair to attribute either one of these deaths to the anaesthetic. We have not noted the bladder complications or pulmonary edema which Mason[9] reports. Certainly our patients have suffered less shock than those having inhalation anaesthesia. We have used the drug twice to quiet excitable non-operative cases. We have used it once for a wildly excited alcoholic, with excellent results. It is ideal for operations about the head and neck, and wherever the cautery or diathermy are used, the explosion hazard is removed.

The following list of cases gives a brief account of the type of operation and the anaesthesia obtained:

1. H. B. Age 62. Double Inguinal Hernia. Blood Pressure 180/110.
   Supplemented by novocaine in skin. Complete anaesthesia for one hour.
2. E. D. Age 54. Radical Breast Operation.
   Supplemented by ether as original dose of amytal was too small to prolong anaesthesia over thirty minutes.
3. M. W. Age 68. Strangulated Femoral Hernia.
   Complete anaesthesia.
4. C. S. Age 26. Excision Bartholin's Cyst.
   Complete anaesthesia.
5. J. C. Age 56. Cholecystostomy. Hypertension.
   Complete anaesthesia.
6. A. P. Age 64. Drainage Ruptured Gall Bladder.
   Patient had bronchopneumonia before operation.
   Supplemented by novocaine in the skin.
7. A. F. Age 16. Circumcision.
   Complete anaesthesia.
8. M. C. Age 52 Rib Resection.
   Complete anaesthesia.
9. W. B. Age 26. Blood Transfusion. Splenic Anemia.
   Supplemented with nitrous oxide gas.
10. H. P. Age 26. Laparotomy for Tuberculous Peritonitis.
    Supplemented with spinal. Complete anaesthesia.
11. S. S. Age 31. Dilatation and Curettage. Right Salpingo-oöphorectomy for Cystic Disease.
    Complete anaesthesia.
12. R. W. Age 63. Tonsillectomy and Extraction of Abscessed Teeth.
    Complete anaesthesia. Marked cyanosis, probably because of the too rapid injection of sodium amytal, and poor airway. Recovery with application of mechanical airway and oxygen.
13. A. R. Age 48. Appendectomy.
    Spinal and sodium amytal. Slough in arm from injection outside the vein.
14. E. D. Age 56. Repair of Ventral Hernia. Chronic Nephritis, Hypertension, Mitral Stenosis.
    Spinal and sodium amytal. Duration 1½ hours.
15. B. P. Age 27. Intestinal Obstruction.
    Spinal and sodium amytal.
16. F. P. Age 32. Bilateral Inguinal Hernia.
    Spinal and sodium amytal.
17. S. H. Age 72. Drainage Appendix Abscess.
    Spinal and sodium amytal.
    Death ten days later of volvulus of small intestine and gangrene of the bowel.
18. A. M. Age 26. Manipulation and Reduction of Fractured Body of the 11th Dorsal Vertebra.
    Application of cast. Patient had fractured ribs, and bronchitis. Cyanosis when patient was on face relieved by oxygen.
19. M. R. Age 59. Amputation of the Breast for Chronic Mastitis. Hypertension.
    Small dose preliminary morphine given, and small dose of amytal.
    Anaesthesia not complete but no supplementary anaesthesia necessary as arms were held. Patient had no recollection of this incident. Anaesthesia incomplete.
20. S. H. Age 31. Dilatation and curettage for Incomplete Miscarriage.
    Complete anaesthesia.
21. L. P. Age 26. Fractured Shaft of the Humerus and Colles' Fracture Same Arm.
    Amytal. Complete anaesthesia.
22. A. L. Age 29. Lymphoblastoma of Submaxillary Gland. Dissection of Neck.
    Complete anaesthesia.
23. F. K. Age 53. Dislocation and Fractured Ankle. Asthmatic.
    Sodium amytal. Complete anaesthesia.
24. G. P. Age 22. Branchio-genetic Fistula.
    Sodium amytal. Complete anaesthesia.
25. A. S. Age 72. Carcinoma of Transverse Colon. Lateral Anastomosis.
    Spinal and amytal. Complete anaesthesia.
26. M. K. Age 36. Excision of Hemangioma of Tongue with Bovie Knife.
    Complete anaesthesia.

27. G. D. Age 74. Drainage of gall bladder. Bad cardiac case.
Spinal and sodium amytal.
Died of cardiac failure four days later.
28. G. W. Age 24. Acute Appendix.
Spinal and amytal. Complete anaesthesia.
29. H. F. Age 66. Strangulated Inguinal Hernia.
Sodium amytal. Complete anaesthesia.
30. M. T. Age 77. Carcinoma of Caecum. Ileo-colostomy.
Complete anaesthesia.

SUMMARY

A series of thirty cases of general intravenous anaesthesia with sodium amytal is reported. We find the drug has the following distinct advantages:

1. Quiet, pleasant induction of anaesthesia.
2. Postoperative sleep for twelve to twenty-four hours with loss of memory for painful events.
3. Absence of postoperative nausea and vomiting.

The chief dangers are cyanosis and pulmonary edema, which can be avoided by administering the drug slowly and by keeping air passages free by holding the tongue forward.

We feel that sodium amytal given intravenously in combination with local anaesthetics offers a distinct contribution to our anaesthetic equipment.

I am deeply indebted to Dr. W. Stewart Whittemore for his enthusiastic coöperation and aid in this work and for his permission to report many of his private and ward cases in this series.

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REPORT OF A CASE OF RUPTURED CHYLOUS MESENTERIC CYST

Case Report

BY FRANK K. DUTTON, M.D.*

THE literature on the subject of mesenteric cysts divides them usually into four varieties: lymphatic or chylous, enteric, urogenital, and dermoid. The case herewith described comes under the classification of true chylous cyst, or cystic lymphangioma, and is reported not only because of the rarity of the tumor itself but the unusualness of its rupture, causing a sudden surgical problem. In the literature available, I have found no mention of surgical interference occasioned by the rupture of such a cyst. The attention is usually drawn by symptoms produced through interference with mesenteric circulation, or obstruction due to kinking or narrowing of the bowel, caused by the size of the tumor.

The following classification by Dowd[1], based on the genesis of mesenteric cysts, is still generally accepted:

Embryonic, including: Dermoid
Serous
Chylous
Hemorrhagic
Enteric

Hydatid
Malignant

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Niosi[2] and Ewing[3] believe that some mesenteric cysts are acquired, especially the chylous or lymphatic types, and the theory of lymph stasis, resulting in dilation and rupture of a lymphatic vessel, is very applicable to the following case inasmuch as the cyst cavity was, to our observation, within the leaves of the mesentery and presented no wall or sac that was not as one with the mesentery itself. Pathological examination of the tissue showed no columnar or specialized epithelium suggesting a separate cyst wall.

Klemm[4] states that the cyst wall of the true chylous cyst is made up of tissue arising from the mesoderm, and so must be of embryonic origin.

According to Swartley[5] and Flynn[6] a diagnosis has never been made previous to operation or autopsy. The presence of a soft, freely movable tumor, discovered at abdominal examination, with a history of mild abdominal pains associated with vomiting and with either, or alternating, diarrhoea and constipation should cause its consideration along with other more common conditions. The cyst, if small, will undoubtedly give no symptoms. Increasing in size, its symptoms will be dependent upon its encroachment on mesenteric blood vessels or bowel lumen itself. The rupture of a chylous

cyst of any size, such as we are reporting, may be due to indirect or direct violence, increasing tension gradually causing pressure necrosis, or necrosis from adjacent inflammatory tissue. The symptoms caused by its rupture are immediate severe abdominal pain not particularly localized, nausea, vomiting, a tender slightly spastic abdominal wall, and symptoms of more or less shock; the degree of shock depending on the amount of hemorrhage and the degree of chyle irritation to the peritoneum.

Cysts of any size must be differentiated from the more common ovarian cysts, pedunculated fibroids, malignant growths of the intestines, hydronephrosis, hydrops of the gall bladder, pancreatic cysts and retroperitoneal tumors. Rupture of a mesenteric cyst will simulate the symptoms of ruptured tubal pregnancy, ruptured pelvic or tubal abscess, and some forms of acute peritonitis from appendicitis, pancreatitis or diverticulitis.

TREATMENT is necessarily surgical. If encountered inadvertently, while the abdomen is opened, the condition should be treated on account of the tendency of these cysts to enlarge and cause symptoms from rupture, extension or pressure. The treatment is enucleation, resection, marsupialization, or aspiration. Enucleation is the ideal procedure if it can be carried out without damage to the mesenteric blood vessels or to the adjacent bowel. The mortality of this procedure is about 16 per cent.[5] Resection must be done if the circulation of the bowel is dangerously impaired, or if the cyst has caused kinking or narrowing of the bowel, and also if in the act of enucleation the blood supply or intestinal wall has been damaged. Resection usually means that a deep wedge of mesentery must be removed, as the base of the cyst, penetrating deeply towards the root of the mesentery, involves the larger branches of the mesenteric blood vessels. The mortality of this procedure has been high—about sixty per cent.[6, 9]. Marsupialization, which has been quoted as obsolete[5], I believe still has a place in our treatment of those cases where enucleation is impossible and where the integrity of the bowels and its blood supply are not impaired enough to warrant radical resection. The dangers of infection, hernia and refilling of the cavity are all appreciated, but to my mind are more than balanced by the mortality in removal by resection.

Wilson[7], and Aleson[8] report cases treated by aspiration alone, in both of which there was recovery and no signs of recurrence developed.

CASE REPORT

The patient, Mrs. E. H., was a white woman 35 years of age. Her father died of tuberculosis; her mother was living and well, aged 62. Her husband and three children were living and well. The first child was delivered by forceps, causing lacerations of both cervix and perineum. The following two deliveries were normal. Two and one-half years ago the lacerations of the cervix and perineum had been repaired, at which time she was examined vaginally, under ether. No pathology or abnormality was then noticed either in the pelvis or abdomen. For the past two years she had had spells of "stomach trouble". At various times she had had attacks of nausea and once or twice had vomited. She had experienced no pain in the abdomen. She has had two attacks of diarrhoea, but stated that the remainder of the time she had been constipated. She thought that her abdomen was larger and had been increasing in size the last year. She had not noticed any history was normal.

Two weeks previous she had suffered with urticaria.

April 8 the patient felt perfectly well. The morning of April 9, shortly after rising, while in the kitchen, she experienced a sudden severe pain in her abdomen. Questioned as to the location, she said it extended throughout the whole abdomen and was not at any time localized. She vomited several times during the next hour. Her bowels moved once during this time, intensifying the pain. After this first hour the pain quieted somewhat and then increased, becoming more intense and crampy in character.

Six hours after the onset of pain, I saw her at her home. She was lying in bed with both knees flexed. She complained of intense pain in the abdomen and constant nausea. Temperature by mouth 99.2°. Pulse 104. Respirations 22. The abdomen was slightly distended and the whole abdomen was tender and slightly spastic, this being accentuated below the level of the umbilicus and most marked in the right lower quadrant. No masses were felt. Vaginal examination revealed no masses, and only slight tenderness on palpation of either vault. The uterus could not be felt, and tipping the cervix caused no pain. The patient was sent to the hospital. Blood examination there showed: Hb. 80%; RBC 4,224,00; WBC 12,400; polymorphonuclears, 89. Large lymphocytes, 4. Small lymphocytes, 1. Transitional cells, 6. Stained specimen: Showed slight achromia, platelets normal. Urine examination negative.

OPERATION: Ether anesthesia. Right rectus, split muscle incision. On opening the peritoneum the abdominal cavity was found to be full of a thick milky fluid. This fluid had the consistency of heavy milk, no odor, and left a flaky scale on the peritoneum of bowel and wall. Continuing the examination, a mass the size of a grapefruit was brought up to view and this was found to be in the mesentery of the ileum, one and one-half feet from the ileocecal valve. The mass was probably one-third full of the same fluid that was found free in the abdominal cavity. At the upper pole was a necrotic area which had perforated and through which the cyst was emptying itself. The involved bowel showed only a slight degree of congestion, its color being a darker red than normal, but glistening through its entire length. The cyst itself seemed to be distended between the leaves of the mesentery, its depth penetrating almost to the root of the mesentery, its upper margin coming to within an inch of the bowel. Its breadth was about eight inches at its broadest point. At the necrotic area, and surrounding it, the cavity had distended and thinned the wall for an area the size of a small orange, and the necrotic area where the cyst had ruptured was encircled with an area of inflamed tissue. The contents were emptied and an attempt made to find a cyst wall or membrane in the hope of enucleating it. This proved to be impossible. The inner surface of the cyst was hyperemic and congested and all attempts to sep-

arate any layers only seemed to prove more strongly that the walls of the cyst were as one with the tissue of the mesentery. The fact that the cyst cavity extended so deeply towards the root of the mesentery, together with the excellent condition of the involved bowel, made the consideration of resection, which would include deep resection of the mesentery, unwarranted.

Examination of the pelvis and remainder of the abdomen proved negative. The appendix, showing the same congestion as the adjacent ileum and caecum, was removed. The necrotic area of the cyst was excised and the surrounding tissue of this opening was brought up to the peritoneum and observation made to see if this would cause any kinking or twisting of the ileum. As this was found not to be so, the edges of the tissue were marsupialized to the peritoneum. A small rubber tissue drain was inserted to the pelvis and the cyst cavity packed with gauze, both for drainage and in the hope that its irritation might help in its later obliteration. The wound was closed in the usual manner.

The following day the drainage was quite profuse, consisting of milky fluid mixed with serosanguineous fluid. The next day it was entirely sanguineous in character and remained that way for five weeks, the quantity becoming less and less.

No attempts were made to move her bowels for four days but on the fifth day oil and an enema were given. The first three days there was moderate distention, handled easily with a rectal tube. The pelvic drain was removed on the fourth day; on the sixth day the removal of the gauze pack was started and each following day was gradually drawn out until on the tenth day it was removed. The patient was allowed to sit up on the fourteenth day and went home on the twenty-first day after her operation. The drainage stopped entirely five weeks following the operation and examination seven weeks after showed a well-healed, strong scar with no inflammation. Her condition at the present time is excellent.

PATHOLOGICAL EXAMINATION (Dr. Fred D. Jones) Milk colored liquid, composed entirely of very small fat cells mixed with lymph plasma. Culture from this gave no growth. Tissue Examination —Chronic inflammatory mesenteric tissue. No epithelium suggesting cyst wall.

SUMMARY

A true chylous mesenteric cyst is a rare condition. Its rupture, which is still more unusual, will cause an acute surgical problem. Its rarity almost precludes its diagnosis. This case seems to warrant the conclusion that its origin might possibly be occlusion of some lymphatic channel, with gradual filling up between the leaves of the mesentery until either the weakness of the wall or necrosis by pressure caused perforation. Marsupialization cannot be considered obsolete. It still has a place in surgical treatment of cystic cavities where, for definite reasons, other procedures do not seem applicable.

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PSYCHOGENIC FEVER*

BY MARK FALCON-LESSES, M.D.,† AND S. H. PROGER, M.D.†

THE existence of a transitory increase in temperature with each visit to an out-patient clinic is uncommon. The following case has shown such a fleeting elevation of temperature and has afforded opportunity to investigate its etiology.

Miss A. V., a young Italian woman of twenty, first came to the evening clinic of the Boston Dispensary, on March 15, 1929, because of diabetes. Her temperature at that visit was 100° F. The urine showed 5.8 per cent. of sugar and moderate amounts of diacetic acid. She was placed in the ward for a few days until the glycosuria and ketonuria disappeared and since then has been aglycosuric during most of the period of observation of fifteen months. At no time could any correlation be observed between the presence or absence of glucose in the urine and variations in the body temperature.

During the subsequent fifteen months the patient has visited the clinic 44 times, making about 1 visit every ten days. During that time her temperature was taken at 29 visits and on 21 occasions it showed elevations ranging between 99.6° F. and 100.5° F., averaging 100° F. At such times the pulse rate was also elevated, usually to 100.

The patient's diabetes was of about one year's duration. She had no history of rheumatic fever, chorea, or recurrent tonsillitis. There was no family history of tuberculosis and no known exposure to any case of tuberculosis. She has never had any cough, dyspnea, sputum, night sweats, hemoptysis, or chest pains. She has never had joint pains or swollen joints. She lost 25 pounds at the time of onset of the diabetes but under treatment has shown a constant slow gain in weight. Her appetite has always been good and she has had no gastro-intestinal or genito-urinary symptoms. There have been no menstrual irregularities and no nervousness, fatigability, or weakness.

Examination showed the patient to be in good nutritional state. The gums were of good color and not retracted. The teeth were not carious. The throat and tonsils were not injected. The thyroid isthmus was barely palpable. The lungs were resonant, the breath sounds vesicular, and râles absent. The heart was not enlarged to percussion and there were no murmurs. The blood pressure was 130/90. There were no masses, tenderness, or spasm in the abdomen. The liver, spleen and kidneys were not palpable. The extremities showed no tremors, edema, wasting, or ulcers. The knee jerks were active and there was no Babinski. The fundi were normal. Vaginal examination was negative. Further examinations during the next 15 months dis-

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closed no significant changes from the preceding, with such exceptions as will be noted.

Repeated examinations of non-catheter specimens of the urine have shown nothing abnormal. The leukocytes of the blood have varied from 7000 to 12,000 per cu. mm. Once a count of 15,000 was reported by the laboratory; this was done 10 months before the last visit. Subsequent counts have been under 10,000. The following is the range of the differential count:

Polymorphonuclear leucocytes:	68-76%
Lymphocytes:	15-23%
Monocytes	1-5%
Band forms (immature polynuclears)	2-4%
Abnormal white cells	Absent
Eosinophiles and basophiles	0-2%

The immature polynuclear leucocytes have always been under four per cent. Pyogenic infection usually causes an elevation above eight per cent. in these cells[1].

The red blood cells have ranged from 4,500,000 to 4,800,000 and the hemoglobin has been 80% by Sahli's method. The smears have never shown any abnormality of the red blood cells.

The Hinton, Wassermann, and Kahn tests, a subcutaneous tuberculin test, agglutination test for undulant fever, and blood culture were negative. Roentgen-ray plates of the chest, taken at a year's interval, were negative. Roentgenograms of the sinuses were negative; those of the teeth showed an area of absorption about one tooth, which was immediately removed early in the period of observation. Cholecystography showed that the gall-bladder filled and emptied normally and was free of stones. The basal metabolic rate was within the normal range by Aub-Dubois' standards.

The patient was supplied with an accurate thermometer, carefully instructed in its use, and asked to keep a record of her daily temperature at both 2 and 4 hour intervals. She made 345 observations at home and only three elevations above 99.2° F. were noted—temperatures of 99.4°, 99.6° and 100° respectively. The latter two rises occurred immediately following heated arguments with her sister. On those days when the patient was to report to the clinic the temperature taken at home always showed a slight but definite rise a few hours before she came to the clinic. The home temperatures were striking in their uniformity and lack of fluctuation—only seven elevations above 99.0° occurred at any time and, with the three exceptions noted above, the other four took place on the afternoons preceding clinic visits. The diurnal variation was usually less than one degree Fahrenheit. During the course of treatment, the patient was transferred to the morning clinic and with the transfer the temperature elevations appeared in the morning at the clinic and were absent in the evening at home.—whereas previously they had been absent in the morning at home and present when she came to the clinic at night.

Further evidence of the lability of thermoregulation in this patient was afforded by the following observation. The patient's temperature just before venipuncture was 97.9° F. During the venipuncture it rose to 99.3° F., a rise of 1.4° F. occurring within five minutes.

The effect of venipuncture on the temperature was studied in 27 clinic patients having blood drawn for Wassermann tests. Most of these individuals had undergone no previous punctures. The temperatures were taken several minutes before the puncture and again during the withdrawal of the blood. Twenty-four of these patients had a temperature under 99.0° and three had temperatures of 99.6°, 101.0°, and 103.0° respectively before venipuncture. Seventeen showed no rise following this procedure. Of the seven which showed elevations only two were over 0.4°, one showing a rise from 98.4° to 99.0°, the other from 97.3° to 98.0°. None of the patients with normal temperatures showed a rise above 99.0°. The three patients with fever showed no rise at all. These observations contrast strongly with the rise of 1.4° caused by a similar procedure in the case we are reporting.

Further observations were made in other ways. The patient was purposely frightened by the suggestion of an operation and her temperature rose from 98.2° to 99.0° within ten minutes. A visit to the patient while in the hospital by two physicians caused a rise from 99° to 99.5° within two minutes. A vaginal examination caused a rise from 98.8° to 99.7°, an increase of 0.9 of a degree. There was a return to 98.8° within 10 minutes after the completion of the examination.

The patient was observed in the hospital on two occasions. She remained four days during the first hospital admission for a subcutaneous tuberculin test. The admission temperature was 100° F. on this visit but thereafter was normal in spite of the subcutaneous injection of old tuberculin in doses ranging from 0.1 to 10 mg. At the second hospital visit, ten months later, rectal, axillary, and mouth temperatures were taken simultaneously. Changes in the mouth temperature were always paralleled by changes in the rectal and axillary temperatures. This indicated that the elevations observed were not a local phenomenon due to temperature changes in the mouth.

Two infections occurred during the prolonged period of observation. The first was a common cold which lasted a week and from which she recovered completely. The second was an acute gingivitis due to Vincent's organisms. This lasted several weeks, during which time the patient received intensive treatment until all signs of infection had subsided. It is important to note that the fever occurred before the onset, during, and many months after the complete healing of the Vincent's infection, indicating conclusively that the gingivitis was not a contributing factor in the production of the fever.

Interestingly enough, this patient was very clearly not a psychoneurotic. She never had any symptoms or exhibited any of the characteristics associated either with neurasthenia or hysteria. She appeared of a calm, equable disposition and never manifested objectively any signs of emotional disturbance.

COMMENT

In applying the term "psychogenic fever" to the temperature elevations observed in this patient, the following concept is in mind: that while the initial stimulus causing the fever is probably psychic, nevertheless an unusual maladjustment of thermoregulation must be predicated. Evidently we are dealing, in this patient, with an unstable heat-regulating mechanism since the usual neuroses will not *per se* produce such recurrent elevations of temperature over a long period of time.

Many articles on hysterical or psychogenic fever[2, 3] deal exclusively with cases exhibiting such marked elevations of the temperature (106° to 112°) and such bizarre distributions of the hyperpyrexia that one is not surprised at the doubts raised as to the existence of the condition. For example, Oppenheim[4] cites Jolly, Strümpell, Lubarsch, Direksen, Soca, and Babinski as doubtful of its occurrence. At the Paris Symposium on Hysteria in 1908 similar doubts were expressed.

On the other hand, Oppenheim[4], in the 1913 edition of his textbook, and Nonne[5], in the 1923 edition of the same book, call attention to such moderate elevations as have occurred in the present case and refer to "dieses kleine Fieber der Nervösen." The former reports slight rises to 100° F. (axillary) occurring in young women patients of neuropathic constitutions without organic disease, and points out the need for further clinical research in such cases. Egger[6] and de Montet[7] have reported such cases lasting months to years and feel that the cause is due to an easily stimulated vasomotor or thermoregulatory center. Dejerine[8] also recognized slight elevations of temperature of short duration occurring in neurasthenia associated with emotional stimuli. Osler[9] states that there are rare instances in which no other diagnosis is possible and cites a case of hysterical fever of five years' duration. Both Dejerine and Osler note that fever may be the only sign of hysteria and this state of affairs appears true in the present case. It is, however, doubtful whether one should call such cases hysteria in the absence of definite psychic disturbances.

Osler, even in the first edition of his textbook[10], differentiated clearly hysterical fever with moderate and with extreme elevations, reporting two cases of the former and noting the possibility of fraud in the cases with fever of unusual height. Many modern writers[3, 11, 12, 13] fail to differentiate the two types as clearly as did Osler and deny, or give assent to, the concept of hysterical fever without critical consideration of the cases reported by Toussot, Reviére, Briquet, Chauveau, Voss, Larré, Kauffmann and others[4]. More recently, Brünecke[14] Deutsch[15], and Horder[16] uphold the conception of psychogenic fever by giving confirmatory evidence. Horder, in considering the objections of those who feel that somehow infection plays a part in such cases, states that this objection, while reasonable, "perhaps reduces itself to rather a quibble if one says that in this type of patient the pyrexia is really due to some subinfection by an organism which in persons of a more stable nervous system would not show this effect".

In the case here reported the strongest evidence supporting the psychic origin of the fever is not so much the exclusion of organic disease as the actual production of fever by such stimuli as are associated with psychic disturbance.

SUMMARY

A case of psychogenic fever of fifteen months' duration is reported. Psychic stimuli and thermoregulatory maladjustment are considered the etiologic factors. The diagnosis in this case has been made not only by the exclusion of organic disease, but also by experimental production of fever with emotional stimuli.

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CASE RECORDS
of the
MASSACHUSETTS GENERAL HOSPITAL

ANTE-MORTEM AND POST-MORTEM RECORDS AS USED IN WEEKLY CLINICAL-PATHOLOGIC EXERCISES

EDITED BY RICHARD C. CABOT, M.D.
F. M. PAINTER, A.B., ASSISTANT EDITOR

CASE 16471

GENERALIZED EDEMA

MEDICAL DEPARTMENT

A married American woman twenty-nine years old entered May 21.

When the patient was sixteen years old a rapid, regular cardiac impulse was very noticeable on her chest wall. She had no complaints. Her physician advised a month's rest in bed, but after a week she felt so well that she resumed her usual active life. She had no palpitation or dyspnea, but had vertigo at times. Eight years before admission she had a period of rapid irregular palpitation accompanied by dyspnea following a large meal of fried potatoes. For the next year she had similar attacks about once a month lasting one or two hours, brought on by heavy eating, exercise or emotion. She also began to have dyspnea and palpitation on exertion. During the next five years the attacks became more frequent and severe, often lasting two or three days, once lasting a week. She danced and played tennis against advice. Five years before admission she had nervous prostration and was in bed for six months. Three years before admission she was seen by a heart specialist who found her exhausted, fearful, and so weak she could not walk more than a block or two. She had palpitation, dyspnea and vertigo on excitement and exertion; no pain. She sighed much. She was tired and overworking. Digitalis had formerly upset her stomach. It was again given with interruptions on account of nausea. She did well for three months on digitalis. Two and a half years before admission she developed generalized edema of the extremities, chest, back and face, with ascites. For two years she had been practically constantly bedridden, on digitalis and diuretin as needed to keep the edema down. The ascites was more difficult to control than the edema of the extremities. After diuresis she seemed fairly well for two months at a time. A year before admission she had albuminuria. Recently there had been little albumin. Five months before admission she was seen again by the heart specialist. Four months before admission she had grippe followed by bronchitis. Since this attack she had had periods of coughing which brought on nausea and vomiting. The edema and ascites had increased, unrelieved recently by digitalis and diuretin.

Family history. Her father died of hypertension and shock. There had been one other death in his family from shock. Her mother was very nervous. Her grandmother was hysterical.

Past history. She had always been delicate and nervous. She had tonsillitis at eight years, measles at eleven, and three attacks of pneumonia in childhood. She had been married for eight years with no pregnancies. She had had discomfort and a bloated feeling three hours after meals, not relieved by soda. Since the past winter her bowels had been constipated. For the past two weeks she had urinated six times at night, very small amounts. The difficulty at present was due to local edema.

Clinical examination showed a poorly developed and nourished woman lying propped up in bed with shallow breathing but in no distress. Skin and mucous membranes slightly pale, but good color in the cheeks. Much dentistry. Tonsils enlarged. A small and slightly tender tonsillar gland on the left. Slight dullness at the bases of both lungs, with many moist râles, especially on the left. Pulse irregular in rhythm due to extrasystoles. Variation in strength of beat. Heart greatly enlarged. Forceful apex impulse in the sixth space 12 centimeters to the left. Heaving precordium, rather irregular due to several successive extrasystoles. Loud harsh systolic murmur at the apex and base and late diastolic murmur over the mitral area. Blood pressure 150/90. An electrocardiogram showed auricular fibrillation, rate 100, many ectopic ventricular contractions, right axis deviation. Tense distended abdomen, no pitting of abdominal wall. Tympany in the midline with fullness in the flanks. Fluid wave. Tenderness in the left upper quadrant. Marked pitting edema of the legs, pitting edema of the left arm, marked edema of the sacrum. Knee jerks and ankle jerks not elicited on account of edema. Pupils normal. Rectal and vaginal examinations not done.

Urine: normal amount, cloudy at both of two examinations, specific gravity 1.018 to 1.028, a trace to a large trace of albumin at both examinations, 10 to 20 leukocytes per high power field at both, some in clumps, a few to occasional hyalin casts at both. Blood: hemoglobin 75 per cent, reds 4,650,000, leukocytes 17,100 to 17,900, slight to moderate achromia, moderate variation in size, slight to moderate variation in shape, platelets decreased, occasional polychromatophilic cells, a few showing finely granular stippling. Renal function 20 per cent. Non-protein nitrogen 24 to 60 milligrams.

For the first two weeks temperature normal except for one rise to 99.5°, radial pulse 55 to 87, pulse deficit 7 to 67, respirations 20 to 36. During the last two weeks temperature 98° to 103.5° with a terminal drop to 95.9°; radial

pulse 89 to 47, pulse deficit 4 to 30; respirations 12 to 33.

The patient was given luminal without effect. She was then given one-sixth grain of pantopon, which upset her. The following morning she was nauseated and stuporous and looked ill. Digitalis was stopped. That day, May 25, she was unable to void and was catheterized, with withdrawal of three ounces with great relief. An unsuccessful attempt was made to give a half cubic centimeter of salyrgan in 4 cubic centimeters of saline intravenously. Later the same amount was given intramuscularly. There was good diuresis and the patient was more comfortable. May 31 she was more uncomfortable because of edema. Two cubic centimeters of salyrgan was given intravenously. June 3 she was in a critical condition, with marked boggy edema of the extremities to the hips and conspicuous ascites and edema of the skin of the trunk. The apex rate was 130 to 140. She had difficult, gasping respiration. Two Southey's tubes were introduced into each thigh and drained well. She was given rapid digitalization. By June 5 the heart rate was down to 90. She was drowsy most of that day; when roused was often confused. At times she was incontinent. The breathing was of the sternocleidomastoid type. The chest was filling up with edema. Two days later the edema of the legs and thighs was not so marked. The left leg was more edematous than the right. The right arm was enormously swollen and very painful, but normal in color and warm. There were sticky inspiratory râles in both lungs. On June 9 and 10 she was mentally clearer. There were frequent extrasystoles, causing bigeminy at times. On June 13 she began to have severe paroxysms of coughing. The edema of the trunk, arms and head rapidly increased. June 16 she became very cyanotic and died.

Clinical Discussion

BY RICHARD C. CABOT, M.D.

NOTES ON THE HISTORY

Many of us have a rapid cardiac impulse if we run fast enough, but presumably she had it if quiet. The only cause I can think of which may begin as early as sixteen is hyperthyroidism, although one does not often look for it then. I take it she had had it for some time and with no obvious cause for it.

I do not think we can blame fried potatoes for the palpitation. Of course anybody who already has heart trouble with a good deal of unsatisfactoriness in the heart action may have that aggravated by gas in the stomach after a meal of fried potatoes or of various other harmless substances. The very act of digestion brings more work on the heart. If the heart is already heavily burdened it may show its insufficiency more clearly after a meal.

That early illness may have been nervous prostration or tuberculosis or heart trouble or many other troubles. We leave that question open until we see what comes later.

People with gas in the stomach sometimes sigh without any other known cause.

This heart expert who gave her digitalis presumably thought she had heart disease or he would not have given digitalis. But we do not know what he found.

Notice how late the edema came, as it usually does in a heart case. The symptoms were going on for eleven years before the edema appeared.

We are often told when there is edema of the face there are kidney complications, and it often does mean that. But we get a number of exceptions to this rule. This may be all cardiac trouble in spite of the edema of the face.

I take it that there was a period between the periods of albuminuria when she was without albumin.

This is a long, slow history of organic heart disease developing in a young woman. Practically every such case is of the rheumatic type. We have no reason to think of congenital, syphilitic, hypertensive or thyrogenous heart disease. She has had no pain, so we cannot suppose it to be of the coronary type. We have no reason to suppose that there is anything the matter with the thyroid. If it is rheumatic heart disease we shall expect mitral stenosis, because that is much the commonest rheumatic lesion. Hence on examining a patient with such a history as this we expect to hear certain sounds at and near the apex. A mitral lesion is the most likely one.

I suppose they found that when the local edema was relieved the frequency of urination stopped. That can be due to passive congestion of the kidney. It does not necessarily mean nephritis.

NOTES ON THE PHYSICAL EXAMINATION

The electrocardiogram is rather surprising. We should expect to have absolute arhythmia (auricular fibrillation). The late diastolic murmur is typical of mitral stenosis in the late stage. They had apparently not suspected the auricular fibrillation from the pulse.

The tenderness in the left upper quadrant I do not understand. We usually do not get anything like that from a congested spleen.

That sort of urine is perfectly consistent with either normal or abnormal kidneys. It may be present merely from passive congestion or it may be due to a very extensive chronic glomerular nephritis.

The renal function is perfectly consistent with passive congestion of the kidneys.

I suppose the luminal was without effect because of her hereditary tendencies.

The intravenous salyrgan was probably unsuccessful because they could not find a vein.

That is quite often true when there is poor circulation.

Southey's tubes are simply tubes open at one end with a needle in the other. They are put into the deep tissues and the edema fluid drains out. They do very well except that they are apt to go septic around the region of entry in the skin and then give more trouble than they are worth.

The sternocleidomastoid type of breathing is the nodding type in which the jaw rises and the head goes backward with every breath. We almost never see a patient recover who has had that type of breathing. I have seen recovery once, in a case of acute purulent pericarditis in a physician. It is not an absolutely fatal sign, but I have never seen a case recover except that one.

DIFFERENTIAL DIAGNOSIS

I think we ought to feel no considerable doubt about the main diagnosis. The main diagnosis is chronic rheumatic endocarditis with mitral stenosis. The main question is what else, what complications or additional diagnoses should we suspect? In the first place infarcts. Because of the fact that she had had edema of one arm more than the other, that she had been sick so long and water-logged so long with a disease in which infarcts are particularly common, that is the first and most probable lesion to add after the main diagnosis. You know of course with chronic mitral stenosis a clot often forms in the left auricular appendage. I believe something of that kind happened here. That may have been causing the temperature, the leukocytosis and all the terminal conditions which are present in this case. One does not need to suppose anything else.

We certainly should consider the possibility of acute endocarditis on top of a chronic endocarditis. That might perfectly well be here without causing any other symptoms than she had. We cannot go beyond a suspicion of that unless we have definite evidence of arterial embolism, which we have not, or of bacteria in the blood, which we have not. Apparently there was no blood culture. We may suspect, then, acute endocarditis, but we cannot do more on the basis of the facts given.

She may have had acute pericarditis, terminal. It is not so common at her age as in older people with a more chronic disease. The autopsy should show dropsy in all the great serous sacs and chronic passive congestion. Beyond that I do not know what I can say on the basis of the facts given.

Should we suppose any other cardiac valve lesion? Not from the facts; only on general statistical evidence. When we find clinically evidence only for one lesion we often find two or more postmortem. It is perfectly possible to have an aortic or some other rheumatic lesion on which we cannot definitely put our finger.

I ought to say more about the kidney. There was once a rather high non-protein nitrogen. There was edema. There was once a high systolic blood pressure. Are those enough to make us think of chronic glomerular nephritis? Yes, but not enough to make us diagnose it.

A STUDENT: Was there a chance of a terminal bronchopneumonia?

DR. CABOT: That is always a possibility. We have not much except some sticky râles to suggest it.

A STUDENT: Do we often get a history of rheumatic heart disease without rheumatism?

DR. CABOT: If that is surprising to anyone here he ought to learn now that "rheumatic heart disease" often shows no rheumatism. That is, we get in cases where there is rheumatism exactly the same type of heart disease, with all the signs, as in other cases arising at the same age, particularly in young women, without any rheumatism. Rheumatism is a poor term. The disease may hit the joints and never hit the heart, it may hit the heart without involving the joints, or it may hit the brain in the form of chorea. Any one or any combination of those different things may be present with or without arthritis. I should not hesitate at all to say that this was a rheumatic heart or to suspect that evidences of that might be found in the heart muscle. Aschoff's bodies may be found even when there has never been any joint trouble at all.

CLINICAL DIAGNOSES

Rheumatic heart disease.
Mitral insufficiency and stenosis.
Auricular fibrillation.
Cardiac failure.

DR. RICHARD C. CABOT'S DIAGNOSES

Chronic rheumatic endocarditis with mitral stenosis.
Probably infarcts.
Possibly acute endocarditis.

ANATOMIC DIAGNOSES

1. *Primary disease.*

Chronic rheumatic endocarditis of the mitral and tricuspid valves; insufficiency and stenosis.
Acute endocarditis, slight.

2. *Secondary or terminal lesions.*

Chronic passive congestion, general.
Hydrothorax.
Ascites.

PATHOLOGIC DISCUSSION

DR. TRACY B. MALLORY: The autopsy showed well marked mitral stenosis. The heart was only moderately hypertrophied. We never find the

extremely heavy hearts in mitral disease that we find in other types of heart disease. The mitral valve was stiffened into a partially calcified ring which was both incompetent and stenosed. Besides the old sclerotic process there was a very slight fresh acute endocarditis. Of the other valves besides the mitral the one involved was rather exceptionally not the aortic but the tricuspid. Usually when that is involved both the other two, the mitral and the aortic, come first. When rheumatic involvement gets as far as the pulmonary valve we may take it for granted that all the other three are involved too. The tricuspid showed quite marked insufficiency and slight stenosis.

The other organs showed chronic passive congestion. There was a large accumulation of fluid in both the pleural cavities and the abdomen. The swelling of the right arm did not turn out to be due to embolism, but to thrombosis on the venous rather than the arterial side. What was back of that we do not know. It is quite possible that the old intravenous medication may have produced it.

DR. CABOT: Was that in both arms?

DR. MALLORY: According to my record it was the right subclavian vein only.

A STUDENT: Is there any possible way of diagnosing tricuspid involvement?

DR. CABOT: I do not know how to diagnose tricuspid involvement. All the older textbooks tell all about it. If people put that down in their diagnoses before autopsy they are generally wrong. It is usually there if you diagnose something else. Something else will be found plus tricuspid.

As to therapeutics, I should say those were good therapeutics. She would not have lived so long if she had not been treated, and we have no reason to regret what was done or omitted.

CASE 16472

COMA WITH INSIDIOUS ONSET

MEDICAL DEPARTMENT

DR. RODERICK HEFFRON*: A forty-eight year old mulatto baggage man entered the Emergency Ward in a rather stuporous condition, having been brought to the hospital by ambulance. The history obtained was rather inadequate as given by several members of the family, whose stories did not agree very well.

The patient had been a heavy drinker for years, drinking anything possible to obtain. For the past two years he had not been drinking much because he had not been feeling very well. During these two years he had had periods of considerable epigastric distress. A niece thought he had been slightly jaundiced for a period of two or three weeks at a time on a few occasions, had had rather poor appetite and had not been able to work during these periods.

The present illness began two or three weeks before entry, when he had another of these gastric upsets, did not feel at all well and stayed about the house. He seemed drowsy, slept little and did not eat well. A few days before admission he began to have generalized itching which lasted for a few days. He became more drowsy, but could be roused. He would not take any food. His wife noticed that his skin and eyes were getting yellow. His stools were light colored and his urine very dark.

On admission to the Emergency Ward he had no pain. Physical examination at that time showed a semistuporous mulatto, rather thin, with obviously deeply jaundiced sclerae and skin. General examination did not show much. His mouth was very foul. His breath had a peculiar, rather sweetish odor that has been noticed before in cases somewhat similar to this. The chest was perfectly clear. The liver was not enlarged to percussion; we thought it might be small; the upper border seemed to be in the sixth space rather than the fifth. There was probable fluid in the abdomen, but we were unable to demonstrate it. He had a little edema of the feet. The leukocyte count was 7,200.

His condition seemed to warrant giving intravenous glucose, and 400 cubic centimeters of a 25 per cent solution of glucose and calcium chloride 15 cubic centimeters of a five per cent solution were given intravenously. The icteric index was 30, the van den Bergh 15 milligrams per 100 cubic centimeters of blood. The liver function test showed 100 per cent retention after one half hour. During the night he slept fairly well. He was drowsy, and could not be made to take any food. The next morning we started intravenous glucose by the gravity method, keeping a 10 per cent solution running constantly at the rate of about 250 cubic centimeters an hour, averaging 4 to 6 liters of this solution every twenty-four hours until death. He had no calcium chloride other than that given on admission. With a perfectly normal red count of 5,320,000 there was a hemoglobin of 60 per cent and moderate achromia in the smear. A Hinton was negative. There was no stool examination.

He scarcely roused, would say a few words, then lapse again into a stuporous state. The liver was apparently shrunken as far as could be made out by percussion. The percussion dullness seemed to get smaller day by day. He went deeper and deeper into coma. On the fourth day the temperature, pulse and respirations showed a sharp rise above their previous normal. He began to have râles at both bases. There was very little edema of the legs. The abdomen remained about the same; we felt sure that there was some fluid there; that seemed more evident than on admission. The heart and

*Recently senior interne on the East Medical Service.

blood pressure held up very well until the end. The night that he died his chest filled with fluid quite rapidly over a period of about four hours, starting down in the base with bubbling râles, filling up to the mouth and beginning to run out; a foamy yellow fluid. He apparently died of pulmonary edema six days after admission to the hospital.

We thought he probably had acute yellow atrophy of the liver superimposed on an old cirrhosis, probably alcoholic.

DR. A. V. BOCK: What was the urinary output?

DR. HEFFRON: About eight ounces every hour, —almost a constant stream.

DR. CHESTER M. JONES: Did his urine show very much sugar?

DR. HEFFRON: He showed a green test once.

DR. JONES: Except that, the interesting thing in this case is whether he had cirrhosis or not. A good proportion of the cases of acute yellow atrophy I have seen lately do not give a good history of cirrhosis. This man gave a much better history than usual. At autopsy many do show a chronic process in the liver. My impression is that many cases of cirrhosis are suddenly hit by infection or toxemia, develop atrophy and go to pieces quickly. One other thing is the edema of the feet before developing any frank ascites. I have seen a reasonable number of cases with severe liver damage with jaundice in which edema of the feet is more marked than ascites. I think that is always a very bad sign and usually means death within a short time. I saw recently on the surgical service the only case which has not died within a week or two if edema of the feet develops without marked ascites.

DR. TRACY B. MALLORY: Have these cases been studied by the skin permeability method which has been used in studying cardiac and nephritic edema?

DR. JONES: No, I believe not.

CLINICAL DIAGNOSIS

Acute yellow atrophy of the liver.

ANATOMIC DIAGNOSES

1. *Primary disease.*

Cirrhosis of the liver.

2. *Secondary or terminal lesion.*

Pulmonary edema.

PATHOLOGIC DISCUSSION

DR. MALLORY: The autopsy showed old, rather inactive cirrhosis. We have had a few other cases of somewhat the same sort in which the clinical history suggested a fairly acute, stormy course. There was nothing at autopsy to suggest any recent extension of the process. It seems to be of years' duration. It is very difficult to explain why the clinical picture developed so suddenly just at the end. The liver was somewhat small, grossly nodular — much larger nodules than we expect to find in alcoholic cirrhosis. Microscopically there was no fatty infiltration, which is distinctly against alcoholic cirrhosis. I am inclined to doubt very much whether the cirrhosis was alcoholic in origin, in spite of the story. It is possible that it was. He apparently had given up drinking for two years. That story may explain the lack of any positive evidence.

The only other findings are a slight degree of pneumonia and a very diffuse, quite marked pulmonary edema.

DR. BOCK: Was there any evidence of excess water elsewhere in the body?

DR. MALLORY: Very little. He had about a liter and a half of ascitic fluid and about 200 cubic centimeters of fluid in each pleural cavity; that is about all.

DR. JONES: It seems to me that these cases of alcoholic cirrhosis do show very striking clinical change each time if they really do stop alcohol and the whole process may become quiescent unless something else hits them. I recall one case of less than a year ago in which the dye retention was 50 per cent with no jaundice and only a barely palpable liver. I think he stopped his alcohol completely for a year. At the end of about four months' time the dye retention had gone down 20 per cent and all the symptoms—epigastric distress and so forth—had disappeared. I think this might well be what occurs in that type of case when we find very little fat in the liver.

DR. BOCK: How large was the spleen?

DR. MALLORY: It was 175 grams—not much above normal.

DR. BOCK: What do you think is the mechanism of edema developing in cirrhosis of the liver?

DR. MALLORY: I do not know; but I do not think it is all portal obstruction.

DR. BOCK: The fact that he was on a constant large fluid intake for five days without ascites and that all of the fluid came through the kidneys suggests a possible element of more or less kidney damage in cases that do have ascites associated with portal obstruction. The efficiency of the kidneys may have been a factor in preventing a splenomegaly. The evidence is suggestion only.

DR. JONES: They have done animal experiments at the Mayo Clinic where damage was produced in the liver by means of chloroform or other poisons following which high or low protein diets were used. In these experiments animals receiving a high protein diet developed ascites and edema which disappeared if the protein in the diet was diminished sufficiently and soon enough. Those on a high carbohydrate diet from the beginning did not develop edema

and ascites. Autopsy findings in the former animals did not show sufficient evidence of obstruction to explain the development of ascites on a purely anatomic basis. This is experimental evidence entirely in accordance with Dr. Bock's remarks. In this patient there was an unusually large fluid intake, six liters a day mostly by the intravenous route with a high percentage of glucose. He did not get glycosuria because the rate of infection was sufficiently slow.

A PHYSICIAN: Is the number of alcoholic cirrhosis cases increasing or decreasing?

DR. MALLORY: Decreasing definitely so far as our records go. We have had only two or three good cases here in the past two years.

DR. JONES: Dr. McGrath says he sees more cases of sudden alcoholic death instead of the old type of large liver from chronic alcoholism.

One other thing in this case: the van den Bergh was supposed to be 15 and the icteric index about 30, very much out of proportion. The icteric index should have been 125 to 150 with a van den Bergh of that grade. We certainly see very striking discrepancies between the icteric index and the van den Bergh. We may some time know what it means. That is a very unusual discrepancy.

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THE ETIOLOGY OF MULTIPLE SCLEROSIS

IN April, attention was called to the new work of Sir James Purves-Stewart and his laboratory colleague, Miss Kathleen Chevassut, on the etiology of multiple sclerosis[1]. More recently Sir James delivered a lecture in Boston, before the Boston Society of Psychiatry and Neurology, in which he gave his views upon the subject and demonstrated by lantern slides the *Spherula insularis* which he believes to be the cause of the disease.

As soon as the first announcements were made of this investigation, in March 1930, it was presumed that other workers throughout the world would repeat the experiments. The repetition, however, of the research was found to be a long, arduous procedure because of the technical details and the special apparatus needed for both the growth and the examination of the organism. A report, however, has been published by Ransome and Smith[2] within seven months of the original publication, giving the results of the examination of twelve patients. In each case changes were found in the cerebrospinal fluid, although most of the patients had received previous intravenous injections of silver salvarsan before the work was begun. The cultural methods followed out the technique described by Miss Chevassut and in eleven out of the twelve cases spheres or granules were found exactly as described in the original paper[3]. One case, not active clinically and having a low gold sol curve, failed to show the organisms. Other tests were used, such as growing the organisms on special media, with a moderate degree of success. A number of control cases were used and none of the spherules were seen. The authors are continuing their studies, using autogenous vaccines, and promise to report the results of their future investigations.

This confirmation of the findings of Purves-Stewart and Miss Chevassut is of great interest, coming, as it does, from another laboratory in a distant part of England. It is hoped that further confirmation will soon be published by these investigators and others. In the meantime we should keep an open mind. Even though "confirmed" once, there still may be a possibility of error in this complicated and little-understood bacteriological field.

REFERENCES

1 Multiple sclerosis. New England J. M. 202:784, (Apr. 17) 1930.
2 Observations on disseminated sclerosis. The Lancet 219:901, (Oct. 25) 1930.
3 The aetiology of disseminated sclerosis. The Lancet 218: 552, (March 15) 1930.

THE TRAINING OF MIDWIVES

THE question of the proper training of midwives is one of recurrent interest even in communities where the midwife has no legalized status. If in states adjacent to Massachusetts there is provision for the education and licensing of midwives and interest in such provision is growing, while we in this Commonwealth refuse them legal recognition, the question can be regarded as settled only temporarily. "There is much to be said on both sides." Are there eternal principles involved, or only questions of practicability and expediency?

The fundamental difficulty arises from the nature of obstetrics. We may agree that it is a science and an art, but is it medicine? It is clearly not internal medicine, nor is it surgery in spite of the claims one sometimes hears that Caesarean section is the easiest way to have a baby. Certainly pregnancy is not a disease, however insistent the claims of the contraceptionists, and if pregnancy is physiological, under whose care shall it come? Some kind of practicing physiologist, of course, is the proper person.

In favor of the midwife system is first, its hoary antiquity; second, its apparent practical necessity in dealing with certain limited groups; third, its financial economy; and finally, the sta-

tistical reports on which are based claims as to the better results obtained under midwives (in Great Britain and some other European countries) than under physicians (in the United States).

Perhaps we are oversentimental in this country (within limited fields). Perhaps theoretically we value the life of the expected child and of the expectant mother too highly. But, theoretically, we do value them so highly, and we think the margin of safety between physiology and pathology is so reduced in the pregnant state, that every pregnant woman should have the benefit of medical supervision during pregnancy and childbirth and the puerperium. We do not as yet have such complete knowledge of these conditions that the chief responsibility for their handling can be relegated to a group of rule-of-thumb workers whose rule-book is provided by the licensing board for midwives.

If gross statistics compiled without reference to all significant factors suggest deficiencies in the practice of obstetrics by physicians, the obvious remedy is to improve the practice of obstetries by physicians, however difficult the working out of this improvement may be in practice. The answer is to be found through more attention, not more inattention, on the part of the physician.

THIS WEEK'S ISSUE

CONTAINS articles by the following named authors:

COLBY, FLETCHER H. S.B., M.D. Harvard 1918. Assistant in Genito-Urinary Surgery, Harvard Medical School. Assistant in Urology, Massachusetts General Hospital. Assistant Surgeon, Huntington Memorial Hospital. Surgeon to Out-Patients, Palmer Memorial Hospital. His subject is: "Varix of the Urethra with Hematuria." Page 1011. Address: 6 Commonwealth Avenue, Boston.

MERRITT, EDWARD L. M.D. Tufts College Medical School 1917. Urologist, Union Hospital, Fall River, and Fall River General Hospital. Associate Urologist, Ste. Anne's Hospital, Fall River. Consulting Urologist, Cape Cod Hospital, Hyannis, Mass. Chief of State Approved Venereal Disease Clinic, Fall River. Member, New England Urological Society and American Urological Association. His subject is: "A Case of Pyonephrosis Treated Without Operation." Page 1011. Address: 130 Rock Street, Fall River, Mass.

BARNEY, J. DELLINGER. A.B., M.D. Harvard 1904. F.A.C.S. Chief of Service, Urological Department, Massachusetts General Hospital; Assistant Professor Genito-Urinary Surgery, Harvard Medical School; Consulting Urologist, Salem Hospital, Waltham Hospital; Cable Hospital, Ipswich; Gale Hospital, Haverhill; U. S. Marine Hospital, Chelsea; Massachusetts Eye and Ear Infirmary; Hunt Memorial Hospital, Danvers; Peterboro Hospital, Peterboro, N. H. His subjects are: "Case of Herpes Zoster Mistaken for Renal Disease," and "Priapism Complicating Splenic Leukemia." Pages 1012 and 1013. Address: 87 Marlboro Street, Boston.

RILEY, AUGUSTUS. A.B., M.D. Harvard 1907. Assistant Professor of Genito-Urinary Surgery, Harvard Medical School. Assistant Visiting Surgeon, Boston City Hospital. Associate Chief of Genito-Urinary Department, Boston Dispensary. Consultant in Genito-Urinary Disease, Symmes Arlington Hospital. His subject is: "A Case of Advanced Polycystic Disease of the Kidneys." Page 1013. Address: 868 Beacon Street, Boston.

SWAN, CHANNING S. A.B., M.D. Harvard 1923. Visiting Surgeon to the Long Island Hospital. Assistant Urologist to the Massachusetts General Hospital. His subject is: "Ruptured Urethra with Extravasation of Urine Following Self-Introduction of a Nut Pick." Page 1014. Address: 264 Beacon Street, Boston.

MERRILL, EARL S. B.A., M.D. Harvard 1920. F.A.C.S. Chief of Urological Service, Eastern Maine General Hospital, Bangor, Maine. His subject is: "A Case of Renal Infection with Marked Anemia Cured by Two-Stage Nephrectomy." Page 1014. Address: 15 Forest Avenue, Bangor, Maine.

PETERS, CLINTON N. A.B., M.D. Medical School of Maine 1914. F.A.C.S. Attending Urologist, Maine General Hospital, Portland, Maine. Consulting Urologist, Portland City Hospital; U. S. Marine Hospital; United States Public Health Service, Portland, Maine; St. Barnabas Hospital, Portland, Maine. His subject is: "Essential Hematuria with Unusual Case Report." Page 1015. Address: Portland, Maine.

MITCHELL, ALFRED JR. A.B., M.D. Bowdoin Medical School 1898. F.A.C.S. Chief of Urological Service, Maine General Hospital. Urologist, St. Barnabas Hospital. Consulting Urologist, Children's Hospital, Portland, Maine. His subject is: "Remarks Upon Cancer of the Prostate with Reports of Cases." Page 1020. Address: Portland, Maine.

WALKER, IRVING J. A.B., M.D. Harvard 1907. Clinical Professor of Surgery, Medical School of Harvard University. Surgeon-in-Chief, Harvard Surgical Teaching Service, Boston City Hospital. His subject is: "Abscess of the Spleen." Page 1025. Address: 520 Commonwealth Avenue, Boston.

FINDLAY, FRANCIS M. A.B., M.D. Harvard 1922, F.A.C.S. Assistant Surgeon, Cambridge Hospital. Assistant in Surgery, Massachusetts General Hospital. Assistant in Hygiene, Harvard University. His subject is: "The Intravenous Use of Sodium Amytal." Page 1029. Address: 475 Commonwealth Avenue, Boston.

DUTTON, FRANK K. M.D. Tufts College Medical School, 1915. F.A.C.S. Assistant Surgeon, Springfield Hospital. His subject is: "Report of a Case of Ruptured Chylous Mesenteric Cyst." Page 1032. Address: 6 Chestnut Street, Springfield, Mass.

FALCON-LESSES, MARK. A.B., M.D. Harvard 1926. Assistant in Medicine, Boston Dispensary and Beth Israel Hospital. Instructor, Tufts Medical School. Address: 484 Commonwealth Avenue, Boston. Associated with him is:

PROGER, S. H. B.S., M.D. Emory, 1927. Assistant in Medicine, Boston Dispensary. Address: Medical Clinic, University of Heidelberg, Germany. Their subject is: "Psychogenic Fever." Page 1034.

THE BOSTON MEDICAL LIBRARY

DR. RICHARD MEAD

1673-1754

"Non sibi sed toti"

THOSE who are familiar with the delightful glimpses of the medicine practiced in the 17th century in England, as it is set forth in the "Gold Headed Cane" may recall that one of the longest of the sketches in that book is devoted to Richard Mead, into whose possession the cane came upon the death of its next previous possessor, Dr. Radcliffe. The period in which he lived was an interesting one and the type of the best of the practitioners of that day is worthy of our consideration. The present is not a time when the physician is looked up to because of any achievement other than skill in his profession, possibly, and even that may be wanting if aggressiveness and "bally-hoo" enter sufficiently into the individual's make-up. The doctor is no longer, along with the minister and the lawyer, set above his fellows because of his general culture. The standards of education have changed, in many respects have deteriorated,—and more people can now come up to the level of the professional man's training than was formerly the case and with this change has come that loss of respect, in this regard, which characterizes our times. Whether we regard the change for better or worse it is probably true that few could, if they would, prepare themselves for practice as was done in the years gone by. It is nevertheless interesting to see how it was accomplished and what manner of man, apart from his professional attainments, was the result.

Richard Mead was of an old Buckinghamshire family. His immediate male ancestor was a celebrated Divine in one of the independent congregations of London. The Bartholomew Act of 1662 resulted in the ejection of Richard Mead's father from London whereupon he retired to the parish of Stepney where he took a house and engaged a private tutor to assist him in the education of his thirteen children. Richard, who was the eleventh, was born August 11, 1673. Some years later his father, when he came under suspicion of being connected with the so-called Fanatic Plot, deciding to leave England for a time, entrusted Richard to the care of an excellent tutor under whose guidance he distinguished himself in Latin and Greek. In 1689 he was sent to Utrecht to complete his preparatory training under Gravius, a celebrated scholar of that time. From there he went to Leyden in 1692 to take lecture courses in Botany and the Theory and Practice of Physic. He spent three years here greatly to his profit and then joined his elder brother and two other students in a tour through Italy. In August 1695 he took his degree of Doctor of Philosophy and Physic at Padua. After spending some time in Naples and Rome he returned to London in 1696 and settled down to practice. For some years he had been making a study of poisons and in 1702 published the results of these studies in a volume entitled "The Mechanical Account of Poisons." Forty years later, and as a result of continued study, he brought out another edition in which he corrected many mistakes of his earlier work. In this, his biographer points out, is illustrated the fact that "in the progress of Science, at every step we ascend, the horizon widens, but grows less distinct; we begin with thinking everything is to be explained; we end by finding, in reality our own deficiency".

A further illustration of this same truth was presented by his next publication, in 1704, based upon the principle of planetary attraction lately demonstrated by Sir Isaac Newton. The title of this was the "Influence of the Sun and Moon upon Human Bodies." A further contribution from his pen upon a cutaneous worm, thought to be responsible for the itch, together with the above mentioned contributions, secured for him an election to membership in the Royal Society. This was in 1704. Two years later he became a councilor in which position he remained all his life. In 1717 he was chosen by Sir Isaac Newton as one of the Vice Presidents of the Royal Society. In 1703 he was appointed as Physician to St. Thomas's Hospital. In 1711 he began a course of anatomical lectures before the Company of Surgeons at their hall and continued there with much success for seven years. The University of Oxford gave him the degree of Doctor of Physic in 1707. The honors that came

to him brought him so prominently before the country that he was summoned to attend Queen Anne in her last illness. On April 9, 1716 he was admitted as fellow of the College of Physicians and after that appointment was selected as one of the physicians to the Royal family, from 1719-1724. This was upon the accession of King George the Second. He had few peers in his willingness to encourage learned men of all classes and was most generous and liberal in promoting science in all its branches. His house was full of bronzes, intaglios, marble statues of the Greek philosophers and Roman Emperors, Etruscan vases, coins and medals, besides prints, drawings and paintings innumerable, and a library of ten thousand volumes. At frequent intervals the interested public were freely admitted and to those who desired to study any particular subject which his collection might illustrate he was most liberal in giving access to whatever they might desire. In the British Museum is an engraving of the interior of Dr. Mead's Library. He had constantly in his employ a number of artists and scholars and few indeed were the undertakings of his time that did not find a patron in Mead. Though his practice was large, amounting in a certain year to 7000£, his expenses were considerable and at his death after the sale of his books and collections, his estate amounted to about 50,000£.

Among the many contributions which Mead made to medicine was a publication in response to a request from Secretary Craggs, in 1719, as how to best prevent the spread of the plague which had that year been so disastrous in Marseilles. As a result of his recommendations an Act of Parliament was passed which ran up against the unreasoned objection so often met with in legislatures the world over, and no less often now than then, viz.; one based upon infringements of personal liberty through the institution of quarantine. As a consequence of this opposition two of the most important regulations were struck out, viz.; that which concerned the removal of infected persons from their homes and the marking of lines of demarkation about infested localities. Mead's reply was "Solus populi suprema lex est." He strove for uniform quarantine laws and showed how supremely selfish it would be, in the face of devastating epidemics, to allow commercial greed to dominate the situation.

Two or three years later he is found engaged in encouraging inoculation against smallpox. Lady Mary Wortley Montagu had returned to England in 1722 having witnessed the success of smallpox inoculations in the East. Mead comments on the contagiousness of the disease as if it were almost universally admitted. Twenty years later he was the author of a treatise on Smallpox and Measles in which he had many valuable suggestions to make and particularly urged inoculation. Through his friend Boerhaave he had a copy of Rhazes observations upon smallpox. He appears to have been the first to suspect the cause, and find a remedy for the syncope, that follows rapid withdrawal of fluid from the abdominal cavity whether it be free or sacculated. Mead's reputation carried so far that scarcely any visitor from abroad came to London who did not wish to meet him before returning home, not merely for his celebrity as a physician but because of his general culture and wide interests. In fact Mead's home was frequently, and more or less statedly, thrown open for a sort of Salon or Conversazione where the learned of all walks in life were wont to congregate.

His last work was published in 1751, and was entitled "Medical Precepts and Cautions." It represented, with great candor and directness, those experiences of his own practice which he thought might be most helpful to practitioners. He preserved his interest in affairs up to within three years of his death, which occurred in his eighty-first year.

After his death it was said of him, "that of all physicians who had ever flourished, he gained the most, spent the most, and enjoyed the highest fame during his lifetime, not only in his own but in foreign countries".

MISCELLANY

CONNECTICUT MORTALITY STATISTICS

The Department of Commerce announces that there were 18,282 deaths in Connecticut during 1929 as compared with 17,938 in 1928.

No death rates for 1929 have been computed because any rates based on population estimates made at this time would be unreliable and would have to be materially revised as soon as the 1930 census figures become available.

Significant increases in the mortality from disease in the State are for diarrhea and enteritis among children under 2 years of age, which caused 252 deaths in 1929 as compared with 133 in 1928, the number almost doubled for persons over 2 years of age (rising from 39 in 1928 to 63 in 1929), for influenza (from 304 deaths in 1928 to 543 in 1929), and lethargic encephalitis (from 21 to 29 deaths). Other diseases which increased the mortality somewhat are diseases of the heart, cancer and other malignant tumors, meningitis (nonepidemic), meningococcus meningitis, and congenital malformations.

Considering decreases in proportion to the number of deaths, the greatest were for whooping cough (from 107 deaths in 1928 to 43 in 1929), acute anterior poliomyelitis (from 14 deaths in 1928 to 7 in 1929), diphtheria (from 85 to 61), and measles (from 70 to 51), followed by nephritis, tuberculosis of the respiratory system, and cerebral hemorrhage.

Of the accidental and undefined external causes,

the greatest increases were from automobile accidents, accidental burns, and accidents by other vehicles. These increases were offset somewhat by decreases in railroad accidents, accidental shooting, and other external causes.

Continuous increases in diseases were from cancer and other malignant tumors (from 1,668 in 1926 to 1,902 in 1929), and diseases of the heart (3,522 in 1926 to 3,981 in 1929). These were offset to some extent by continuous decreases in scarlet fever (from 36 in 1926 to 13 in 1929), and tuberculosis of the meninges, central nervous system (from 69 in 1926 to 39 in 1929).

HOW IMPORTANT IS HEART DISEASE AMONG SCHOOL CHILDREN?

In New York City more deaths occur among school girls from heart disease than from any other cause; among school boys it is the second most important cause of death, accidents coming first.—*Bulletin, Children's Bureau.*

EXCERPTS FROM THE BULLETIN OF THE NEW YORK CITY HEALTH DEPARTMENT

NOCARD'S BACILLUS AND PSITTACOSIS

Our readers will recall that until the outbreak of psittacosis last winter the disease was said to be caused by the so-called "bacillus psittacosis" originally isolated by Nocard in 1892. This microörganism is related to the paratyphoid-enteritidis group, or as bacteriologists now prefer to call it, the Salmonella group.

When laboratory studies were made in connection with the recent outbreak all the bacteriologists, both in this country and abroad, were struck by the fact that they could not succeed in isolating the Nocard bacillus. Almost simultaneously and entirely independent of one another Bedson, Western and Simpson in England, and Krumwiede, McGrath and Oldenbusch in New York City showed that the virus of psittacosis is filterable and is not identical with the bacillus originally described by Nocard.

In a recent number of *Public Health Reports*, Branham gives a summary of investigations carried on during the recent outbreak of psittacosis by the National Institute (U. S. Hygienic Laboratory). Her study indicates that the Nocard bacillus is in no way related to psittacosis, either in birds or in man. Following are her conclusions:

"During the recent outbreak of psittacosis in the United States an intensive search for the 'Bacillus psittacosis' of Nocard was made in the carcasses and droppings of parrots that were shipped to the National Institute of Health, in experimentally infected and in normal parrots and parrakeets, and in material obtained from human cases. No strain of 'B. psittacosis' or of any other member of the Salmonella group of bacteria was found.

"In 57 convalescent sera studied, agglutinins for 'B. psittacosis' and other Salmonella bacteria were not demonstrable in dilutions that could be considered significant.

"We have found no evidence of the association of any member of the Salmonella group of microörganisms with psittacosis either in birds or in man."

VITAMINS AND COW'S MILK

In the October issue of *Certified Milk*, Dr. Byron H. Thomas publishes an interesting résumé of the recent contributions to our knowledge of the nutritive value of milk. After pointing out that an adequate diet demands a mixture of about thirty-five nutrients, some twenty of them derived from proteins, about ten others being the inorganic elements, Na, K, Ca, Mg, Cl, I, S, P, Fe, possibly copper or manganese, and at least six vitamins, he states that to the best of our knowledge there is available no single food material containing so many valuable dietary constituents and in such quantity as fresh milk.

A SUMMARY OF THE RECORDS OF SIXTY-FIVE CASES OF RECOVERIES FROM LEPROSY

A report recently issued by the Public Health Service gives an interesting summary of the value of medical treatment for leprosy at the National Leprosarium which is conducted by the Public Health Service at Carville, La. More than 300 lepers, men, women and children, are under treatment there.

During the past ten years, 65 lepers have been discharged from this hospital as apparently recovered from leprosy and no longer a menace to the public health. The average period of hospital care varied from 5 to 9 years. The shortest period of treatment was 1½ years and the longest was 17 years. Fifty-five of these patients received crude chaulmoogra oil by mouth, and sixteen of this group received no other medicine. Twelve received benzocaine-chaulmoogra oil by intramuscular injection, and four of these received no other medical treatment. Twenty-one received the ethyl esters of chaulmoogra oil by intramuscular injection, and eight of these received no other medicine.

The basic treatment of leprosy is similar to that for tuberculosis, and all lepers at the National Leprosarium, no matter what medicines are given, follow a sanatorium regimen of food, fresh air and rest; almost identical with that prevailing in a tuberculosis hospital.—*United States Public Health Service.*

UNDERSTANDING THE CHILD

The Massachusetts Society of Mental Hygiene is pleased to give further details concerning the publication of the new bulletin which was announced in the September Monthly Bulletin. It is to be called "Understanding the Child: A Magazine for Teachers," and will be published quarterly, the first number coming out early in January. It will be sent free to every teacher in the public schools of Massachusetts, and also to members of the Society who especially request it.

At the meeting of the Executive Committee on September 23, the editorial direction of this new publication was given to an editorial Board of three, consisting of J. Mace Andress, Ph.D., as Editor, and

Dr. E. Stanley Abbot and Dr. Henry B. Elkind as Associate Editors. This Editorial Board will have the assistance and advice of a Consulting Editorial Board of fifteen experts in the field of education and mental hygiene.

The editorial policy of the magazine will bear in mind the practical, everyday problems of our teachers, keeping the special background of the teacher in mind. Although the articles are to be written in an interesting and popular style, they will give the best now known pertaining to the mental hygiene of the school child and of the teacher. There will be original articles, reviews of books and magazines, news notes, abstracts of literature, case studies, and questions and answers.

The Society owes a deep debt of gratitude to the Trustees of the Godfrey M. Hyams Trust for making possible this new project.

GROUND BROKEN FOR NEW ENGLAND MEDICAL CENTER

Ground was broken November 12 by the Canter Construction Company, the low bidder, for the Jackson Memorial (Boston Floating Hospital) and the Center building of the New England Medical Center on ground adjoining the Boston Dispensary at the corner of Ash and Nassau Streets. Now two steam shovels are rapidly removing débris and earth from the site of the two buildings, preparatory to laying foundations and getting under cover before cold weather sets in.

The Jackson Memorial building will be four stories and basement for a 45-bed Hospital for Children for the use of the Boston Floating Hospital, to provide all the year round care of babies and children up to twelve years of age. The Center building, so-called, will be five stories and basement to be used by each of the three organizations participating in the New England Medical Center arrangement, namely the Boston Dispensary, the Floating Hospital and the Tufts College Medical School. This building will house service facilities including kitchens, dining rooms, cafeteria, laundry, etc., on the ground floor; Medical, Food, Nose and Throat, Nerve, Skin and Syphilis, Gynecological, Orthopedic and Children's Dental Clinics on the first, second and third floors, the latter floor being supplemented by a 20-bed observation ward for diagnostic purposes, these three floors to be operated by the Boston Dispensary; and commodious living quarters for graduate and pupil nurses connected with the management and training school of the Floating Hospital on the fourth and fifth floors.

The three above named organizations have signed a permanent agreement for the operation of the New England Medical Center which will be administered by a Joint Committee of which Arthur G. Rotch is chairman, other members of the Committee being Earle P. Charlton, John A. Cousens, Charles R. Gow, Ralph Lowell, John R. Macomber, Robert W. Maynard, Francis S. Moulton, James Nowell, Edward W. Pope, Henry B. Sawyer and R. Minturn Sedgwick. Under the agreement, each organization will carry on its own particular activities, functioning under the respective Boards of Trustees, but in a close working affiliation for the benefit of the sick poor of Boston and vicinity, with facilities for the training of Tufts medical students to become family physicians.

Sufficient funds are not at present at hand as a result of the campaign conducted last spring to complete the whole building program which includes in addition the remodeling of the buildings of the Boston Dispensary. The Joint Committee has, however, decided that in view of the severe unemployment conditions they would be rendering a real service to the community and to the unemployed by starting construction of buildings at this time and giving employment to a considerable number of men. It is expected that the two new buildings will be completed in about six months. The work of remodeling the Boston Dispensary will be delayed until additional funds are secured.

NOTE: The term *Medical Center* was earlier adopted by the drive for funds by the Boston Medical Library and the Massachusetts Medical Society; there are therefore two organizations using the same descriptive term.

RÉSUMÉ OF COMMUNICABLE DISEASES IN MASSACHUSETTS, OCTOBER, 1930

The total number of cases of communicable disease reported for October is 4,299, a slight increase over those reported in September and somewhat less than the figure for October of last year.

Anterior Poliomyelitis was reported 170 times in October indicating a somewhat greater prevalence this year over the last two years, but still not enough to indicate a serious outbreak.

Diphtheria remains singularly low, although the slight increase in cases which goes with the winter season has begun.

Epidemic cerebrospinal meningitis was reported only 8 times and is, therefore, not unduly prevalent.

Measles, scarlet fever, whooping cough, chicken pox, German measles and mumps do not show any great increase over last year, nor any very marked epidemic tendencies.

The lowest figure for reported cases of typhoid fever in 25 years was reached in October of this year. This has been the record year in many respects for typhoid fever in spite of the rather severe epidemic of last August and September.

Tuberculosis, pulmonary and other forms, was reported at about the usual rate, and gonorrhea and syphilis showed a rise over last year's figures, which can, in part, be attributed to greater accuracy in reporting.

RARE DISEASES

Actinomycosis was reported from Boston, 1.

Anterior Poliomyelitis was reported from Abington, 1; Andover, 2; Arlington, 8; Barnstable, 1; Bedford, 4: Belmont, 2; Beverly, 2; Boston, 51; Brewster, 1;

Brockton, 1; Brookline, 2; Cambridge, 6; Chelsea, 2; Chicopee, 1; Clinton, 2; Dartmouth, 1; Dedham, 6; Duxbury, 1; Easton, 1; Essex, 1; Everett, 5; Fairhaven, 1; Fall River, 1; Fitchburg, 2; Framingham, 1; Gloucester, 2; Groton, 1; Haverhill, 4; Holyoke, 1; Hudson, 1; Ipswich, 1; Lancaster, 1; Lawrence, 2; Lynn, 4; Malden, 4; Marlborough, 1; Medford, 3; Millis, 1; Newton, 3; Norwood, 2; Plymouth, 5; Quincy, 4; Revere, 1; Russell, 1; Salem, 1; Saugus, 3; Somerville, 6; Southbridge, 1; Springfield, 1; Waltham, 1; Wareham, 1; Westwood, 1; Wilmington, 4; Woburn, 1; Worcester, 2; total, 170.

Dysentery was reported from Cambridge, 1; Worcester, 1; total, 2.

Encephalitis lethargica was reported from Clinton, 1.

Epidemic cerebrospinal meningitis was reported from Boston, 1; Cambridge, 2; Fall River, 1; Gardner, 1; Lawrence, 1; Lexington, 1; Worcester, 1; total, 8.

Malaria was reported from Chelsea, 2.

Pellagra was reported from Worcester, 1.

Rabies was reported from Worcester, 1.

Septic sore throat was reported from Boston, 1; Charlton, 1; Fall River, 1; Lowell, 2; Quincy, 1; total, 6.

Trachoma was reported from Boston, 3.

Trichinosis was reported from Boston, 1.

MONTHLY REPORT OF CERTAIN COMMUNICABLE DISEASES

	Cases in Entire Population				Case Rates per 100,000 Pop.		
	Oct. 1930	Oct. 1929	Proso. Index*	Epi. Index†	Oct. 1930	Oct. 1929	Expected Rate‡
ALL CAUSES	4299	4504	—	—	100.9	106.3	—
Ant. Polio.	170	31	47	3.6	4.0	.7	1.1
Diphtheria	302	432	444	.7	7.1	10.2	10.4
Ep. C. S. Men.	8	9	7	1.1	.2	.2	.2
Measles	339	294	558	.6	8.0	6.9	13.1
Pneu. Lobar	201	280	216	.9	4.7	6.6	5.1
Scarlet Fever	436	631	812	.5	10.2	14.9	19.1
Tbc. Pul.	365	388	369	1.0	8.6	9.2	8.7
Ty. Fever	34	37	37	.9	.8	.9	.9
W. Cough	304	462	522	.6	7.1	10.9	12.3
Chicken Pox	486	500	—	—	11.4	11.8	—
German Meas.	41	22	—	—	1.0	.5	—
Gonorrhea	617	436	—	—	14.5	10.3	—
Influenza	11	16	—	—	.3	.4	—
Mumps	99	222	—	—	2.3	5.2	—
Syphilis	371	153	—	—	8.7	3.6	—
Tbc. Other Forms	48	30	—	—	1.1	1.2	—

*This index is an attempt to estimate the number of cases based on the trend during the past years which can be expected to occur, and is for the purpose of comparison with the number of cases which actually did occur.

†This ratio expresses how prevalent the disease is compared with the index mentioned above; 1.0 indicates that the actual number of cases equals the expected number. A larger number means a greater prevalence, and a smaller number a lesser prevalence than expected. Thus, 2.0 would indicate twice the expected number of cases, and .5 half the expected number of cases. The method used to determine the indices is described in the August 18, 1927 issue of the *Boston Medical and Surgical Journal*.

‡Calculated from the Prosodemic Index.

THE ROTOLACTOR IS DEDICATED

BY OUR SPECIAL CORRESPONDENT

A "rotolactor", an ingenious device for producing pure milk from 50 cows in 12 minutes, was dedicated on November 13, 1930, at the Walker-Gordon farm at Plainsboro, N. J., in the presence of the Secretary of Agriculture, the Governor of New Jersey, and a representative gathering of some 4000 persons, including many members of the medical and public health professions. The machine was started by Thomas A. Edison, and addresses were made by Secretary of Agriculture Arthur M. Hyde, Governor Larson, Dr. Theobald Smith, Dr. Samuel J. Crumbine, and Mr. Henry W. Jeffers, president of the Walker-Gordon Laboratories, who originated this unique method for centralized, sanitary milk production.

The rotolactor consists of a revolving platform with stanchions for fifty cows. The animals come from their barns in single file, step into the slowly moving platform, are immediately washed, then dried by hot air, and milking machines are put on. By the time a complete revolution of the platform has been made, the cow has been milked; the machines are then removed, and she steps off the platform and returns to her barn. The milk is automatically transferred to a weighing machine and then pumped through sterile pipes to the bottling room where it is bottled and capped by machine. The milking machine is rinsed and then sterilized in hot water before being used again.

This new system applies the well-recognized industrial principle of bringing the work to the operator instead of the operator to the work, and in this case produces sanitary conditions not unlike

those of a modern hospital. One feature is the air-conditioning in the milking chamber, resulting in a constant supply of filtered air maintained at a proper temperature and the correct degree of humidity. The milk itself is not exposed to any deleterious influence from the moment it is drawn from the cow until the bottles are opened by the housewife in the home.

As Dr. Crumbine stated in his address on the occasion of the dedication ceremonies, back of these unique sanitary methods is another fundamental safeguard, the regular care and inspection of the 1500 cattle. "Of special significance to physicians, sanitarians and agriculturists is the achievement which we celebrate today," said Dr. Crumbine, who is general executive of the American Child Health Association, "for it marks an epoch in applied science in the fields of sanitation, dairy industry, and agriculture from which ever-increasing health and economic benefits will flow, during the years to come."

ANOTHER SCHEME FOR SWINDLING DOCTORS

A physician in Brookline, Mass., has been notified that a young man, claiming to be his son, applied to a classmate of this physician in Cleveland, Ohio, for aid because of an automobile accident which required appearance before a Justice of the Peace.

The Justice of the Peace demanded a deposit of one hundred dollars to insure his return for a hearing which the young man said was about all the money which he had with him and he needed a loan of fifty dollars to enable him to continue on his journey.

In order to make the story plausible this young man gave a somewhat correct account of this physician's family and other classmates and claimed to be a medical student.

Investigation demonstrated that the young man was operating a swindle.

He is described as slender with dark complexion and pleasing personality.

Physicians, especially Dartmouth men, should be on the lookout for a swindler of this type for he uses names of graduates of this college. The same swindler has been reported in another place.

FACTS WHICH JUSTIFY THE DRIVE FOR $500,000 FOR THE GOOD SAMARITAN HOSPITAL

The need for a means of arresting the ravages of rheumatic heart disease in New England is more than an ordinary "worthy cause", and justifies the effort to raise $500,000 at the present time, members of the women's committee of the Good Samaritan Hospital campaign were told yesterday by two doctors on the hospital staff at a luncheon in Perkins Hall, Women's Educational and Industrial Union. Mrs. Henry B. Chapin, chairman of the committee presided.

Dr. T. Duckett Jones, research director of the Good Samaritan Hospital, who will head the proposed intensive research project, and Dr. Howard B. Sprague, visiting physician at the hospital and a member of the staff of the Massachusetts General Hospital, explained why money invested in this study now will save much greater financial outlay, as well as human lives, later on.

"All interested in reducing the overhead expenses of this country due to death or disability from rheumatic heart disease should be interested in the Good Samaritan Hospital appeal," Dr. Sprague said. "The death of people under 20 years of age costs the country $700,000,000 a year, and the care of patients suffering from chronic heart disease costs from $89,000,000 to $106,000,000 a year.

"The problem is particularly acute for Massachusetts because there are approximately 7,000 children crippled from rheumatic fever, or rheumatic heart disease, in this state, or over twice as many as are crippled from all organic nervous diseases including infantile paralysis. Rheumatic heart disease attacks children of the poorer classes, largely, who cannot receive long bed care in the ordinary hospitals which are devoted to acute cases, nor can they receive the special training for easy occupations needed for earning a livelihood later on. The House of the Good Samaritan, as the hospital is officially called, is organized to attack this problem because of its large number of available rheumatic heart disease cases, because of its nearness to the facilities of the Harvard Medical School, and because of the willing coöperation of other hospitals in Boston which are not fitted to undertake the research into causes and proper care of this disease.

"The Good Samaritan," Dr. Sprague concluded, "wants only $500,000 to undertake its research work in search of a cure for a disease which is yearly becoming more of a menace to all in New England. This is only one-sixth of what it costs Massachusetts each year to care for heart patients and only one-three hundred and fiftieth (1/350) of what it costs the United States annually from the death of people under 20 years of age from heart disease. During the years of worse financial depression in the United States, in 1873, in 1894, in 1907 and 1921 some of the biggest discoveries in medical science came to light. There is no 'bad year for medical science'. Its work must go on regardless of slumps in the market in responding to the greater need at these times to alleviate sickness and prevent death."

Dr. Jones explained that the Good Samaritan has been preparing for this research work for the past decade. For the past ten years the authorities have realized that there was great waste of scientific information available by studying the long-time cases in the hospital, and have hoped that they could serve the wider field as well as care for the individuals under their immediate care.

The women's committee has 86 members and is increasing its number. The vice-chairmen assisting Mrs. Chapin are Mrs. Samuel C. Bennett, Miss Louise Fessenden, Mrs. Alexander G. Grant, Mrs. Richard S. Humphrey, Miss Harriet T. Hayward, Mrs. David H. Maynard, Mrs. Henry W. Minot, Mrs. Pierce P.

McGann, Mrs. William Stanley Parker, Miss Margaret A. Revere, Mrs. Thorvald S. Ross, Mrs. Richard Saltonstall, Mrs. J. Lewis Stackpole, Miss Frances C. Sturgis and Miss Martha Wheatland.

Gifts should be sent to Mr. Thorvald S. Ross, Treasurer, 100 Franklin Street, Boston.

CORRESPONDENCE

ORGANIZATION VERSUS INDIVIDUALISM

The *New England Journal of Medicine*,
165 Newbury Street,
Boston, Mass.

Dear Editors:

In order to dispel any displeasure arising from my contributions in support of State Medicine, may I at the risk of abusing your generosity and broad-mindedness explain why my purpose is good, not bad, for all honest and sincere members of the profession.

I have no fault to find with any doctor or corporate health agency, private or public, individually or collectively. To do so would show ignorance of the fundamental causes of the growing dissatisfaction with medical practice. I condemn only the conditions under which physicians are endeavoring to do justice to the public, their families, and themselves.

A little reflection will reveal the actual advantages of a government medical corps over competitive practice to the majority of the profession. What more does any loyal member of a learned profession demand of society than a chance intelligently to serve mankind in return for adequate compensation? To serve intelligently a doctor must be able to practice modern medicine. Though already many have been trained in scientific medicine, not all appreciate its full scope, reaching into sociology, psychology, criminology, and even theology. Scientific medicine with its emphasis upon prevention requires harmonious coöperation upon the part of all agencies and beneficiaries of medical welfare, together with authentic, permanent personal and statistical records. Proper organization would eliminate the waste and friction of the present individualism, which tend insidiously to sap our vitality and prematurely to wear out our bodies.

Under a coöperative service, which seems destined to supersede competitive practice, the doctor becomes an animate, not an inanimate part of an organization imbued with esprit de corps. He is afforded an opportunity to rise to positions of increasing responsibilities which permit the exercise of executive ability and matured judgment and which relieve him of the drudgery and routine details of individualistic practice.

Though team-work is the sine qua non of modern medicine, which demands much thought and study, there are certain impediments to efficiency and facility inherent in competitive individualism, that must be removed. Those confronting the doctor are:

1. Uncertain and irregular hours of work impairing his health and shortening his life.
2. Variable earned income jeopardizing his financial security.
3. Late marriage at an age of lessened plasticity and nervous reserve.
4. The business management of private practice.
5. Temptations to disregard the priority of the patient's welfare.

Those pertaining to the people are:

1. Lack of faith and confidence inevitable in the prevailing perplexing status of medicine.
2. Monetary considerations due to the indefinite or burdensome costs of medical care.

So difficult is the practise of medicine that the elimination of these anxieties and distractions would be most heartily welcomed by all earnest doctors.

Adequate compensation must recognize the capital investment in a medical education, which by its length and rigorousness weeds out nearly all the unfit. The pay schedule of the Naval Medical Corps does more than this. It favors a healthful life and assures a comfortable livelihood to meet family and social obligations. It provides for a serene old age. What more does any one who knows life as a physician seek? What more need society offer?

Even those who might prefer to pursue private practice would be benefited indirectly by state medicine, because it would save them much time and energy now consumed by non-paying patients.

At a time when some doctors, not all worthy, have too much to do properly, while others, quite worthy, have too little to do,—when many members of our profession in active practice have to reside in cheap apartments, while many in less active practice resort to tenements or working-men's cottages,—when widows of most doctors dying even at the height of their careers have to work for their subsistence or else for their accustomed comforts, while a disgracefully large number of our profession die indigent, is it not true that government medicine founded upon the Bureau of Medicine and Surgery of the United States Navy should be acknowledged by doctors, not as a bogey deterring attack, but as a welcomed boon, improving their economic state, promoting their health, prolonging their lives, and increasing their happiness?

Yours truly,

G. W. Haigh, M.D.

AN OBJECTIONABLE BOOK

Boston, November 7, 1930.

To the Editor of the *New England Journal of Medicine:*

This Pure Young Man

One of the "Six Best Sellers", with the above title has recently come to my attention. In this story one of the characters takes a general anesthetic preparatory to a surgical operation. The sensations of induction with nitrous oxide are accurately described. However, before the surgeon makes his

incision, the anesthetist reports, "Doctor, the pulse is imperceptible." An anesthetic death is chronicled.

Can anything more depressing than the reading of this book confront a patient who must perchance face a surgical operation under general anesthesia? As emphasized by my preceptor, Dr. Freeman Allen, fear on the part of the patient is the greatest obstacle to be faced by both anesthetist and surgeon. It was my recent experience as a patient to be the recipient of some books of modern fiction presented by well-meaning friends. I would respectfully call the attention of surgeons to "This Pure Young Man" and urge them to delete it from the list of books to be read by patients, at least prior to their operating room experience.

Very truly yours,

RUSSELL F. SHELDON, M.D.

AN APPARENTLY FORGOTTEN (BUT OCCASIONALLY INVALUABLE) METHOD OF CONTROLLING HEMORRHAGE

Mr. Editor:

Dr. William L. Detmold (1808-1894), Professor of Military Surgery and Hygiene during the Civil War in the College of Physicians and Surgeons of New York, in a lecture which was published in the *American Medical Times*, of January 3, 1863, in discussing gunshot wounds of the lungs, suggested a treatment which was later referred to in Holmes' *System of Surgery*, Vol. 1, page 455, 1881. It should be remembered that at the time of his suggested treatment, the recognized procedure to control profuse hemorrhage was by liberal phlebotomy of the patient, this treatment being based on the knowledge that after large loss of blood, the blood pressure being diminished and the clotting element of the blood increased, nature would check the hemorrhage.

Detmold's suggestion, published 67 years ago, reads as follows:—

> "Now, as a general rule, wounded men do not bear well depletion; in most cases the soldier's constitution has already been weakened by fatigue, exposure, and camp diet, and the wounded men want all the stamina to withstand the effects of prolonged and perhaps profuse suppuration in the hospitals, where in many cases the means are deficient for building up an enfeebled constitution. I would, therefore, strongly recommend to you a remedy, which, while it gives you all the advantages to be derived from copious and repeated venesections, is free from all its injurious results; this remedy consists in applying ligatures to the limbs by a circular pressure to the upper parts of the arms and thighs, tight enough to check superficial venous circulation without affecting the deeper arterial influx of blood. By this means which is easily put into execution, you may temporarily withdraw any amount of blood from circulation without depriving the wounded of a single drop, the want of which might seriously affect his recovery; for when the momentary and imminent danger of life has ceased, that is, when the pulmonary hemorrhage has stopped, you gradually loosen the ligatures and allow the blood which you have retained for a while harmlessly in the extremities to re-enter circulation."

I probably learned of Detmold's method through Holmes' *System of Surgery*, my first case being a typical one; the patient was a woman, sixty years of age, who had been for some hours vomiting large amounts of blood, and was breathing with difficulty; was cold and nearly pulseless. Considering her age, and with our limited knowledge of gastric hemorrhage at that time, I assumed she was suffering from cancer of the stomach. I tied bandages on all the extremities close to the trunk, as directed by Detmold, and was delighted to find the hemorrhage promptly controlled. After waiting a reasonable time I released the constrictions, thus restoring the blood to the circulation. The patient made a prompt recovery and negatived my presumptive diagnosis by living nearly twenty years with no recurrence of hemorrhage.

Recently a case of fatal gastric hemorrhage was reported at the staff meeting of one of our local hospitals; the autopsy showed that the hemorrhage came from the duodenum. The case was reported by a prominent member of our medical college faculty and a graduate of a distinguished Baltimore school. He had promptly used the ordinary means for checking hemorrhage but without effect. When I suggested to him in the discussion the Detmold method he heartily approved of it, but said he had never heard of it. A few days later, while taking lunch with some hospital interns, I asked the young doctors what would be the proper treatment in a case of that general character. They promptly suggested morphine and an ice-bag; when I told them that that treatment alone would not avail, some of them suggested the administration of some of the medicaments supposed to increase the coagulability of the blood; but when I indicated the need of something more they asked for an adjournment of the quiz. A few days later we met again, and I asked them if they had learned anything new, but with the additional remark that our hypothetical patient had, of course, bled to death, but what would they do for the next one? They could offer no additional suggestions, and when I explained the Detmold method they assured me that they had never heard of it in their different medical colleges nor seen it mentioned in any of their surgical textbooks. Later I looked in a number of modern works on surgery and could find no mention of it.

On several occasions I have used the Detmold method, and uniformly with very satisfactory results. (One of the interns told me that he had himself seen me use it, but had not grasped the significance of

the procedure.) The method is one which will not be resorted to often, but should be kept in mind for the rare occasions when it is urgently needed. The bandage must not be drawn so tight as to entirely prevent return of the blood but only to hold back a large amount of it.

This treatment would unquestionably be found serviceable in all cases of hemorrhage in which direct treatment to reach the bleeding point is impossible, and would include, therefore, large hemorrhages from the lungs, stomach and bowel. Possibly under some rare circumstances it could even be used, at least for temporary purposes, in uterine hemorrhages.

R. H. M. Dawbarn (1860-1915), at one time Professor of Surgery and Anatomy in the New York Polyclinic Medical School, advised, in cases in which an unusually bloody operation was anticipated, that what he called "sequestration anemia" should be induced by bandaging the extremities as recommended by Detmold. He called this method of bandaging the extremities "cordage". (Keen's *System of Surgery*, Vol. 5, page 192.) I have never followed Dawbarn's suggestion, but possibly could have advantageously done so.

In his work on "Operative Surgery" Dr. Horsley speaks of the possible danger of thus interfering with the blood stream in "tedious operations," but that danger must be very slight, particularly if care is taken that the veins are not too tightly constricted. Welch (*Johns Hopkins Press* 1, 47, 1900) states very positively that "a stationary column of blood included in an artery or vein between two carefully applied aseptic ligatures within the living body may remain fluid for weeks".

Dawbarn himself warns against leaving the bandages on too long, but advises releasing them from time to time at perhaps fifteen to thirty minute intervals; probably releasing, however, one at a time so as to maintain the efficiency of the "sequestration".

J. F. BALDWIN, M.D.

Columbus, Ohio.

ANSWER TO QUESTIONS ABOUT THE PHYSICIANS' RIGHTS WITH RESPECT TO AUTOPSIES

July 21, 1930.

Mr. George H. Crosbie has asked for Legal opinion respecting the Rights of Physicians with respect to autopsies and we are permitted to use the opinions submitted by Powers & Hall as follows:

We find no statutory requirements for a signed permission, and it is our opinion that a verbal permission duly proved would be sufficient provided, of course, that it was given by the proper person. A signed permission is always preferable because it eliminates many possibilities that are always present when reliance is had on oral testimony. For example, witnesses may be missing at the time of trial; their testimony may be conflicting, and the plaintiff may deny he gave permission or may testify that it was given subject to certain conditions which were not complied with. Permissions given over the telephone would be particularly hard to prove satisfactorily. Except when dealing with people well known to the doctor we should advise getting a written permission in every case, although, as we have stated, there is a legal requirement therefor.

There is very little authority on the question of who should sign or give such a permission, and because of the nature of the action for the mutilation or dissection of a dead body it is perhaps not possible to predict exactly what a court would do in any except a few situations.

Our Supreme Court has said that there is no right of property in a dead body. There is, however, a right of possession for the purposes of burial or other lawful disposition of it, and the person entitled to the possession of the body for the purpose of burial has a right against one who unlawfully interferes with it and mutilates it. *Burney v. Children's Hospital*, 169 Mass. 57.

Permission for an autopsy must therefore be obtained from the person or persons having a right of possession for the purposes of burial or other lawful disposition of the body.

This right is not in the executors or administrators of the deceased.

A surviving husband or a surviving wife has the right, subject to a possible exception in a case where husband and wife had been living apart before the death.

Where there is no surviving husband or wife it would seem that the next-of-kin have the right. Determination of who are the next-of-kin is regulated by statute, and in the ordinary case the determination is a simple one. The following is a summary statement of the statutory rules in Massachusetts, which you may find useful:

RULES FOR DETERMINING NEXT-OF-KIN

Case 1. *If the deceased leaves issue*, next-of-kin are his children and the issue of any deceased child by right of representation; and if there is no surviving child of the deceased, then his other lineal descendants by right of representation.

Case 2. *If the deceased leaves no issue*, next-of-kin are father and mother, or, if only one survives, then that one.

Case 3. *If the deceased leaves no issue and no father or mother*, the next-of-kin are his brothers and sisters and the issue of any deceased brother or sister by right of representation. If there is no surviving brother or sister of the deceased, the issue of the deceased brothers and sisters by right of representation.

Case 4. *If the deceased leaves no issue and no father, mother, brother or sister and no issue of any deceased brother or sister*, his next-of-kin are the persons of the nearest degree of kindred, the degrees being computed by counting backward from the deceased to the nearest common ancestor of him and the person whose relationship is under consideration and then downward to the latter, adding each step. If there are several claimants of equal degrees of kindred, those claiming through the nearest ances-

tor are preferred. If there are several kindred of the same degree of kindred and claiming by ancestors of equal remoteness share equally.

Case 5. *If the deceased leaves no widow or husband and he has no* next-of-kin, his estate escheats to the Commonwealth.

"Right of representation" as used in the foregoing summary is the taking by the descendants of a deceased heir of the same share or right in the estate of another person as their parent would have taken if living. Kindred of the half-blood inherit equally with those of whole blood in the same degree.

It is apparent from the above that in some cases the doctor may have difficulty in determining who are the next-of-kin, and he may make a mistake if the information he has is inadequate or if there is a complicated situation. Case 4 particularly may trip him, and in such a case, or if there are adopted or illegitimate children in the situation, he would do well to get legal advice before relying upon any permission.

Even after the next-of-kin has been determined, in a case where there is no surviving husband or wife, there may still be problems. Of course if a doctor can get a signed permission from all the next-of-kin he has done everything possible, but there may be cases where part of the next-of-kin are minors, incompetent, or at a distance. We find nothing in the cases which helps us in determining whether permission given by one or more but not all of the next-of-kin would protect a doctor against a claim by others who had not consented, and while we believe that a court would in all probability protect a doctor who had the consent of those of the next-of-kin who were of full age, competent and on the ground so to speak, our belief is not based upon any decided case.

Where the deceased is a minor, and leaves no surviving wife or children, it would seem that the consent of the father alone is enough. At least in *Burney v. Children's Hospital, ubi supra*, the right of the father to sue for an unauthorized autopsy was established, and it does not appear whether the mother was still living. In this case the right of the father was based on the fact that he was the natural guardian of the child rather than on the fact that he was the next-of-kin. This would seem to be inconsistent with the language in the case stating that the right of possession is vested in the husband or wife or next-of-kin, and it illustrates the difficulty we have in stating a definite rule based upon the language of the courts. If the right were a right of property it would follow the rules applicable to property and we could foretell with some certainty what a court would do in any particular case. The right, however, seems to be based upon a right of possession for purposes of burial, which may be dependent upon the peculiar circumstances of a particular case, and until it has been developed by further decisions a doctor can not be certain except in a few simple cases that he has proper permission. On the other hand, the very fact that the basis of the rule is so vague and indefinite might well lead to protection of a relative who had actually taken charge of the burial arrangements.

Where there are no relatives at all, the case may be one where friends of the deceased come forward to take charge of the burial, and in that case, although we have found no authority on the point, it would be our opinion that the consent of such friends to an autopsy would protect the doctor. Moreover, in such a case, as a practical matter it would seem that there would be no one, with the possible exception of such friends, who would have a right to sue for an autopsy, and the doctor would not be running any real risk.

We have not gone into the question of when an autopsy is justifiable without the consent of anyone. Some courts (not in Massachusetts) have held that where a doctor is required by law to certify the cause of death he may make an autopsy solely for the purpose of determining the cause. In such a case it is necessary to prove that the cause could not be determined except by autopsy and that what he did was limited to what was necessary to determine the cause.

To summarize:

1. A written permission is desirable but not indispensable as a matter of law.
2. Permission of a surviving husband or wife will usually, if not always, be sufficient.
3. In the case of a deceased minor, permission of the father is apparently sufficient.
4. Where there is no surviving husband or wife, the permission of the next-of-kin will be sufficient, but whether it is necessary to have all of them cannot be answered on the cases now decided.
5. Where there is no husband or wife and no relatives, the permission of a friend undertaking the burial will, at least as a practical matter, be sufficient.

We regret that we are unable to give more definite answers to the questions and fear that our letter will suggest rather than dispose of difficulties. On the other hand, the fact that there is so little law on the subject is probably evidence that, as a practical matter, it has not been necessary to be strictly technical about permissions, and, as we have said before, our guess (but it is only a guess) would be that the courts would probably protect the doctor who acted in good faith upon the permission of the relative or friend actually supervising burial arrangements.

Very truly yours,

POWERS & HALL.

RECENT DEATHS

HOGNER—Word has been received of the death in Stockholm, Sweden, October 13, 1930, of DR. RICHARD PER GUSTAF HOGNER, a retired Fellow of the Massachusetts Medical Society. He was a graduate of the Medica-Chirurgical Institute, Stockholm, in 1879. Dr. Hogner joined the society in 1893 and his name was placed on the retired list in 1919. He moved to Chambers, Arizona, in 1927 and to Sweden in 1929. He lived on Massachusetts Ave-

nue, Boston, and his tall athletic figure was a frequent sight on the streets of that city, often without coat or hat, for he believed in fresh air. For many years he was a constant attendant on medical meetings and on Swedish lodge meetings.

WILLIAMS—Dr. CHARLES EDWARD WILLIAMS, Tufts College Medical School 1900, died September 23 of cerebral hemorrhage. He was 75 years of age.

NEWS ITEM

HARVARD MEDICAL SCHOOL NOTES—Appointments (voted by the Corporation November 10, 1930):

Reappointments—1 year from September 1, 1930:

Milan Alexander Logan, Ph.D., Instructor in Biological Chemistry.

John Ignatius Bradley, M.D., Assistant in Pathology.

Moses Myer Suzman, M.D., Research Fellow in Medicine.

New appointments—1 year from September 1, 1930:

Allen Gilbert Brailey, M.D., Assistant in Medicine.

Herbert Spencer Saver, M.D., Assistant in Neuropathology.

Henry Louis George, M.D., Assistant in Pediatrics.

Georges Gustave Desenfans, M.D., Research Fellow in Bacteriology and Immunology.

Teodoro Schlossberg, M.D., Research Fellow in Gynaecology.

Charles Cady Ungley, M.D., Research Fellow in Medicine.

Miriam Friedman Menkin, M.A., Research Fellow in Pathology.

Courses for Graduates appointments:

New appointments—1 year from September 1, 1930:

William Bradley Breed, M.D., Instructor in Medicine.

Charles Isaac Johnson, M.D., Fellow in Otology.

NOTICES

REMOVAL

Harold N. McKinney, M.D., announces the removal of his office from "The Warren" to 200 Warren Street, Roxbury, Massachusetts.

UNITED STATES CIVIL SERVICE EXAMINATIONS

The United States Civil Service Commission announces the following-named open competitive examinations:

Medical Officer
Associate Medical Officer
Assistant Medical Officer

Applications for medical officer, associate medical officer, and assistant medical officer will be rated as received by the U. S. Civil Service Commission at Washington, D. C., until December 30, 1930.

These examinations are to fill vacancies in the Departmental Service, Veterans' Bureau, Public Health Service, Indian Service, Coast and Geodetic Survey, and Panama Canal Service.

Full information may be obtained from the United States Civil Service Commission, Washington, D. C., or from the Secretary of the United States Civil Service Board of Examiners at the post office or customhouse in any city.

THE NATIONAL COMMITTEE FOR MENTAL HYGIENE ANNOUNCES THE AVAILABILITY TO PROPERLY QUALIFIED CANDIDATES OF FELLOWSHIPS FOR TRAINING IN EXTRAMURAL PSYCHIATRY

MINIMUM REQUIREMENTS FOR APPLICANTS

These fellowships are designed to provide special training for physicians who have had previous hospital training in psychiatry but who wish to prepare themselves for extramural work in the fields of child guidance, delinquency, education, dependency, and industry.

Fellowships are open to physicians who are:

1. Under thirty-five years of age.
2. Graduates of Class A medical schools, and
3. Who have had at least one year of training in a hospital for mental disease maintaining satisfactory standards of clinical work and instruction. A longer period of hospital training is desirable.

Applicants able to meet these requirements will not be required to take competitive written or oral examinations. Selections will be made on the basis of length and type of previous training in formal psychiatry; on general fitness for the work contemplated; and (in most cases) on the results of a personal interview.

GENERAL DETAILS OF FELLOWSHIPS

1. These fellowships cover a period of training approximately one year in length.
2. During this training period trainees usually are assigned for three to four months' periods at such places as the Boston Psychopathic Hospital; Judge Baker Foundation, Boston; Institute for Juvenile Research, Chicago, and other places of a similar nature, as well as to various child guidance clinics located in Cleveland, Philadelphia and other cities. Assignments to these training centers are not definite, however, and assignments to any given place will depend upon the availability of instruction at such place, as well as the special needs of the individual trainee. Assignments are not made for more than three months in advance, and adherence for the year's training period to a fixed program in advance is impossible.
3. These fellowships carry stipends at the rate of $2,000 to $2,500 for the twelve months' period.
4. Applications need not be filed within stated periods but will be received at any time. In the case of successful applicants, arrangements will

be made to begin work whenever mutally convenient to the applicant and to the director of the training center to which the applicant is first assigned.

Applications or inquiries for further information should be sent to Dr. Frankwood E. Williams, Medical Director, National Committee for Mental Hygiene, 370 Seventh Avenue, New York, N. Y.

REPORTS AND NOTICES OF MEETINGS

HARVARD MEDICAL SOCIETY

On Tuesday evening, October 28, at 8.15 the second fall meeting of the Harvard Medical Society was held in the amphitheatre of the Peter Bent Brigham Hospital, with Dr. Bronson Crothers presiding.

Presentation of Cases:

The medical case was presented by Dr. Pokorny.

This patient is a 54-year-old Italian barber, with a record of five months' weakness. The previous history was as follows: About seven years ago he had "stomach trouble" lasting about two years characterized by distention and distress about two hours after meals. About a year and a half ago he had one attack of gross hematuria. Five months ago he had sensations of heaviness and chilliness in both legs followed the next month by six weeks in bed during an attack of bronchitis and pleurisy. After this he was sent to the Boston City Hospital where a diagnosis of myocarditis and cardiac failure was made. He has since complained of occasional dyspnoea on exertion, palpitation, and swelling of the ankles toward evening. He has lost his appetite, has a bad taste, and vomits occasionally. Physical examination showed a slightly pale man of normal appearance, temperature 99.4°, pulse 100, respirations 20. Important findings were in the chest and abdomen. There was an area of dullness from the angle of the left scapula downward and over this area breath sounds, tactile fremitus and voice sounds were diminished. Crackling râles were heard just above this area. The area of cardiac dullness extended 12 centimeters to the left, the point of maximum impulse being in the 4th interspace in the mid-clavicular line. Heart sounds were of good quality, murmurs being absent.

The abdomen was protuberant and on deep palpation masses were made out in both upper quadrants, smooth edged, and moving slightly on respiration.

Clinical pathology showed slight secondary anemia. Urinalysis on six occasions showed low specific gravity, the highest being 1008. No sugar, slight trace of albumin in all, occasional granular casts and red blood cells. Phthalein excretion twice showed an unmeasurable trace. B. U. N. 75 mg. per 100 cc. on admission later was 69. Pyelograms showed dilated irregular kidney pelves.

He was presented as an interesting case of congenital polycystic kidneys although his symptoms were first thought to be due to a gastric condition.

The second case was presented by Dr. Light of the surgical service.

A 14-year-old school boy entered with complaint of pain in the right hip for five days. He was well until a week before admission when he stood up all day, came home with a sore right foot. Next day he had nausea without vomiting, sharp pain in his right hip, malaise, and fever. At entrance he looked sick, face was flushed with blanched spots. The right hip was tender posteriorly and rectal examination elicited tenderness on the right side of the pelvis. There was pain on motion of the foot in all directions, but no swelling or fixation. The heart was slightly enlarged and presented a presystolic thrill but no murmurs.

There was no history of diseases of the rheumatic group but he admitted having always been short of breath. For two years he has had boils over his body. The roentgenologist's report was negative for evidence of bone or joint disease. Others thought there was some evidence of osteomyelitis with the expectation that if this were the case, positive x-ray evidence would be forthcoming in a few weeks.

In the meantime his white count has remained around 15000 and his fever has been reduced by large doses of salicylates 70-80 grains a day.

The speaker of the evening was Dr. Harvey Cushing whose subject was "Benign Fourth Ventricle Gliomas of Childhood: A Review of 78 Cases." In illustration of his topic he first presented a seven year old boy who for three weeks had complained of a severe frontal headache, slight dizziness, blurring of vision, and unsteadiness of gait. He had vomited occasionally after breakfast. Physical findings pointed toward the diagnosis of a mid-line cerebellar tumor. Optic discs showed two diopters of choking. At a recent operation a mid-line cerebellar astrocytoma was found and completely removed. Since this is a relatively slow-growing tumor it was thought that the symptoms had probably been present considerably longer than had been noted.

The second patient was a woman of 42 years who had complained of headaches and tinnitus for two years, and disturbance of vision for three months. Physical examination showed cerebellar ataxia, choked discs, and secondary optic atrophy. At a recent operation a mid-line cerebellar astrocytoma was removed. It was thought here, also, that the tumor was slow growing and had probably been present long before symptoms were noticed. In both these cases there will probably be no recurrence because of the benign nature of the tumor. The location of these two tumors is in keeping with the generalization that for each particular kind of tumor there is a favorite location. Dr. Cushing then spoke of the pitfalls of tumor surgery and the importance of surgical judgment, a faculty that cannot be transmitted by written statements. He mentioned certain cases of recurrence of essentially benign tumors because some little nodule had not been completely removed, yet emphasized the hazards of complete extirpation because of the proximity of these growths to the vital medullary centers.

It is very important for the surgeon to know which is the predominating cell in a glioma he has encountered. Recent developments of the supravital technique have made it possible, by the study of a smear of the tumor cells, for the surgeon to receive immediate information of the predominating type of cell so that he may govern his subsequent operative procedures thereby.

It was formerly thought that all tumors of the glial group were highly malignant and that operation increased their neoplastic activity. Since forty per cent. of all intracranial tumors belonged to this group, this conception gave a very gloomy outlook. Improvement in methods of classification have changed all this. Gliomas are now classified according to their life history and histogenesis. Beginning with the origin from the primary cell of the medullary epithelium the cells found in the various tumors can be traced histogenetically through the stages of medulloblasts, spongioblasts, astroblasts and so on to tumors composed of fully differentiated cells such as ostrocytes. The malignancy varies indirectly with the degree of differentiation.

Of 808 gliomas operated in Dr. Cushing's clinic up to October 1930, 604 have been classified in this way. Of these 232 are astrocytomas, 139 being of the fibrillary type and 93 of the protoplasmic. So far as the cerebellum is concerned, the prognosis is the same in both these types. Both are benign, amenable to surgery, and not benefited by x-ray therapy.

Dr. Cushing showed some lantern slide graphs illustrating the fact that, although the peak of incidence of all intracranial tumors is between the ages of 45 and 60, the peak in tumors of the cerebellum is between 5 and 10 years. He suggested that, while these latter are probably congenital in origin, they may not give evidence of their existence until adult life because of their slow growth.

Thus it will be seen that another group of supposedly hopeless brain tumors has been rescued.

SUFFOLK DISTRICT MEDICAL SOCIETY

The first fall meeting of the Suffolk District Medical Society was held in the amphitheatre of the Peter Bent Brigham Hospital at eight fifteen P. M., Wednesday, October 29, with Dr. George Derby presiding. After the business session Dr. Derby announced that the present meeting was one of a series of clinical meetings to be held this year at various hospitals. The program consisted of case presentations by Drs. Henry A. Christian, Merrill C. Sosman and Harvey Cushing.

Dr. Christian first presented a case of polycystic kidneys. The patient complained of weakness of five months' duration. For a number of years he had been troubled with indigestion and vague abdominal discomfort. On one occasion one and a half years ago he had had gross hematuria.

In contrast the second case was one of polycystic kidneys which had bled repeatedly and profusely over a period of ten years. An interesting physical finding in this case was a systolic and diastolic murmur heard over the kidney in each flank, suggesting some circulatory abnormality as a cause for the hemorrhages.

The third case was presented as one in which the differential diagnosis rested upon syphilis, hemachromatosis, or cirrhosis of the liver. This was a man of middle age who had had a negative abdominal exploration for vague epigastric pain five years ago. He complained of pain in the right flank radiating down the leg. Physical examination revealed an enlarged liver (notably the left lobe) and spleen, moderate jaundice, and scattered areas of brownish pigmentation over the body.

The fourth case was one of hemophilia with a history of repeated attacks of arthritis and hematuria.

Dr. Sosman next presented four case histories, with x-ray pictures and representative pathological specimens.

The first case was one of gastric ulcer with a history extending over forty years, which showed complete symptomatic and roentgenographic healing after three weeks of medical treatment.

The second was a case of duodenal ulcer with a three-year history which responded symptomatically to medical treatment but showed a persistence of the deformity by x-ray one year later. These two cases are to be regarded as fairly representative of their respective groups. Dr. Sosman stated that twenty-five per cent. of all patients entering the Peter Bent Brigham Hospital for gastric intestinal complaints have ulcer demonstrable by x-ray, whereas only one per cent. have cancer.

The third case was one of a diabetic with extensive tuberculosis of one lung; the patient had shown no symptoms until four months previously and had a negative x-ray three years before. The rapid progress and the x-ray showing central localization of the infection with extension outwards and without apical involvement are to be regarded as typical of pulmonary tuberculosis in diabetes.

The fourth case was that of a woman with a six months' history of persistent diarrhea. The barium enema showed a colon normal in structure and function. X-rays of the pelvis showed a calcified fetus and the diagnosis of a calcified extrauterine pregnancy was confirmed by operation. The symptoms disappeared following operation.

Dr. Cushing presented two patients with the chiasmal syndrome due to suprasellar meningiomas. A young woman whose complaint was failing vision had bitemporal hemianopsia and pallor of the optic disc, but x-rays of the skull showed no enlargement of the pituitary fossa. Operation three years ago demonstrated a meningioma so located it could not be wholly removed. There consequently was a recurrence of the symptoms. Dramatic recovery of vision has followed a secondary operation.

The second patient was a woman of 57 with a history of hypertension with systolic pressure of over 200 for a period of 17 years. There has been recent loss of vision and bitemporal hemianopsia with no changes in the sella. The diagnosis of

aneurism of the internal carotid artery was favored but a meningioma was found and removed. The visual fields, which had shown a complete bitemporal hemianopsia, and acuity reduced to 5/200, returned to normal almost immediately after the operation.

These cases illustrate not only the difficulty of accurately diagnosing the nature of suprasellar tumors, but also indicate the very dramatic and gratifying improvement in vision which results from the removal of a meningeal tumor which has been pressing on the chiasm. The three conditions that are most likely to be confused in this region are: meningioma, adenoma growing up out of the sella without expanding the fossa, and aneurism of the internal carotid artery. Final diagnosis is often impossible before operation.

Dr. Cushing ended the meeting by showing lantern slides of pathological specimens of tumors, such as were found in the patients presented, and illustrating the operative approach to these tumors.

The meeting adjourned at 10 P. M. About 125 members of the society were present.

THE ESSEX SOUTH DISTRICT MEDICAL SOCIETY

The Essex South District Medical Society held its regular meeting at Essex Sanatorium, Middleton, November 5, 1930. At 5 P. M. a clinical session was held consisting of cases of silicosis, with x-ray films presented by the staff of physicians at the West Lynn plant of the General Electric Co. and by Dr. Pettingill and staff of the Essex Sanatorium.

After a seven o'clock dinner, the subject of "Uterine Bleeding" was discussed with lantern slide illustrations by the members of the Committee on Obstetrics and Gynaecology of the Massachusetts Medical Society. The speakers were Dr. Paine, chairman, Drs. Mongan, Lynch, Eades, and Phaneuf.

The president expressed the Society's appreciation of the hospitality extended by the trustees and the superintendent of the Essex Sanatorium.

Attendance 73. Adjourned 10:30.

WM. T. HOPKINS, *Reporter.*

THE HARVARD MEDICAL SOCIETY

The next meeting of the Harvard Medical Society will be held in the amphitheatre of the Peter Bent Brigham Hospital at 8:15 on the evening of Tuesday, November 25.

PROGRAM

Presentation of Cases.

Paper: "Medicine and Surgery in Arabia." By Dr. Paul W. Harrison from Arabia.

Paper: "The Early Diagnosis of Pregnancy With the Zondek-Aschheim Test." By Dr. Benjamin Parvey of Boston.

Physicians, medical students, and nurses are cordially invited to attend these meetings.

WILLIAM P. MURPHY, M.D., *Secretary.*

SOCIETY MEETINGS

CONGRESSES AND CONFERENCES

November 20—The Clinical Conference of the New England Hospital for Women and Children. See detailed notice on page 1008, issue of November 13.

November 21—The New England Roentgen Ray Society. Detailed notice appears on page 1007, issue of November 13.

November 25—The Harvard Medical Society. See notice elsewhere on this page.

December 3 and 10—Harvard Medical School. The George W. Gay Lectures on "Medical Ethics". Amphitheater C at 5 P. M. as follows: Wednesday, December 3—Dr. William H. Robey, Clinical Professor of Medicine, Harvard Medical School. Wednesday, December 10—Dr. Robey.

December 3-June 3—Cardiac Course. See page 854, issue of October 23.

March 23-27, 1931—Fifteenth annual clinical session of the American College of Physicians. Detailed notice appears on page 790, issue of April 17.

July 27-31, 1931—Third International Congress of Radiology, Paris. Complete notice appears on page 385, issue of August 21.

DISTRICT MEDICAL SOCIETIES

Bristol North District Medical Society

April 16, 1931—Taunton Woman's Club.
September 17, 1931.

Franklin District Medical Society

January, 1931-May, 1931—The meetings are held on the second Tuesdays of January, March and May at 11 A. M. at the Weldon Hotel, Greenfield.

Middlesex East District Medical Society

January 14, 1931—Harvard Club of Boston.
March 11, 1931—At Reading.
May 13, 1931—At Wakefield.

Norfolk South District Medical Society

The meetings for the ensuing year are as follows: December 4, 1930, January 8, 1931, February 5, 1931, March 5, 1931, April 2, 1931, May 7, 1931.

All meetings begin at 12 noon. The February meeting will be held at the Quincy City Hospital. All other meetings will be held at the Norfolk County Hospital, South Braintree.

The censors will meet on May 7 at 11:30 A. M. at the Norfolk County Hospital, South Braintree.

NATHAN R. PILLSBURY, Secretary.

Suffolk District Medical Society

December 17-April 29—Combined meetings with the Boston Medical Library. These meetings will be held as specified below on Wednesdays, at 8:15 P. M.

December 17, 1930—Clinical Program, Boston Dispensary.

January 28, 1931—General meeting in association with the Boston Medical Library at the Boston Medical Library. "The Practice of Medicine in Relation to Public Health Activities." Speakers to be announced later.

February 25, 1931—Clinical Program, Boston City Hospital.

March 25, 1931—Clinical Program, Beth Israel Hospital.

April 29, 1931—Annual Meeting. Election of Officers. Boston Medical Library.

The medical profession is cordially invited to attend all of these meetings.

GEORGE S. DERBY, M.D.,
President, Suffolk District Medical Society.
LELAND S. McKITTRICK, M.D.,
Secretary, Suffolk District Medical Society.
HILBERT F. DAY, M.D.,
Boston Medical Library.

BOOK REVIEWS

A Text-Book for Midwives. By JOHN S. FAIRBAIRN. Published by Humphrey Milford, Oxford University Press. 5th Edition.

This work, the fifth edition of which has recently appeared, is by a distinguished British obstetrician and is too well known to need detailed description. Written for midwives, it gives an excel-

lent presentation of British obstetrics for this helpful group of assistants (in Great Britain). It is well balanced, sound, clear. Few inadequacies can be detected, though there are naturally some divergencies of practice. In this country it is to be commended to midwives, wherever they are in training (or in practice), to medical students as a part of their supplementary reading especially in preparation for their work in the "district", and to practitioners in the early days of practice. With a little experience the physician quickly outgrows the need for such informational assistance as the book gives, but on account of its emphasis on correct principles it is worth referring to again and again.

As meeting a need in the training of midwives, the book is to be commended highly. On the question of whether midwives should be trained, it throws little light. Of course if they are to be trained they should be well trained, but many thoughtful physicians feel that encouragement of the midwife system is not in the line of progress in obstetrics.

A Textbook of Histology. By ALEXANDER A. MAXIMOW, late Professor of Anatomy, University of Chicago. Completed and edited by William Bloom, Assistant Professor of Anatomy, University of Chicago. 833 pages with 60 illustrations, some in colors. Published by W. B. Saunders Company, Philadelphia and London, 1930. Price $9.00.

The textbook is printed in clear type, on an excellent grade of paper and is free from typographical errors. The authors have provided a table of contents, and an index of subject matter so arranged as to make easily accessible the most detailed information contained within the volume. There are many figures, photomicrographic reproductions, with illustrations of histologic structures and some of the gross specimens. These, because of their fidelity to detail and exactness of reproduction, should be of invaluable aid to the student. The material is presented in a comprehensive manner and in considerable detail, with the exception of detailed histologic technic which has been omitted. The text for its study utilizes a great amount of human material. A combined treatise of the functional and descriptive anatomical structure enhances its value.

The first chapter is devoted to the general subject of methods of study, and the structure and activity of the cell. Subsequent chapters discuss in detail the various tissues, organs, and systems, with special reference to their functional activities.

Sections devoted to the urinary system, the male genital system, and the female genital system are replete with information seldom afforded by histologic textbooks.

The detailed consideration shown in its presentation of subject matter makes this text of real value to those whose experience in this field is limited, and makes it serve equally well as a text or reference for students in advanced special histology or pathology.

Diagnosis and Differential Diagnosis of Diseases of Women. By DR. WALTHER BENTHIN, Königsberg, Prussia. Berlin and Vienna: Urban and Schwarzenberg, 1930.

This volume of three hundred and fifty pages on gynaecological diagnosis is presented by the author as an introduction to his monograph on indications for operative treatment in gynaecology, and aims to take the place of Winter's monumental work on gynaecological diagnosis, now out of print. It consists of a general introductory portion on methods of examination, and of a special portion which takes up in consecutive detail the diagnosis of all recognized gynaecological and allied disorders. The work is illustrated by one hundred and one text figures, some partly colored, and by a series of forty-eight full-page colored plates appended to the volume. The work is commendably thorough and should be of reliable value to students and practitioners able to consult it in the original.

Problems and Methods of Research in Protozoölogy. Edited by ROBERT HEGNER and JUSTIN ANDREWS. The Macmillan Company, New York. 532 pages. Price $5.00.

The editors of this book have attempted to bring together information of value both to the seasoned investigator and to the beginning student in the field of research in protozoölogy. They have been assisted by twenty-seven collaborators and, as might be expected, there is considerable reduplication and overlapping of effort. Some of the best chapters are those in which the contributors have reviewed investigations already brought to a successful conclusion instead of discussing unsolved problems. Many of these chapters show careful preparation and should prove useful, especially to those entering a new field of endeavor; others create a most unfavorable impression showing inaccuracy of statement and even fundamental errors, the introduction of terms destined to create confusion and some poorly devised classifications and definitions. The constant reiteration of such ill conceived terms as "patent," prepatent," and "host-parasite-specificity" becomes not only tiresome but would appear to be in bad taste.

In approaching medical topics, the reader must prepare himself to encounter statements which although in keeping with popular conception are not founded upon accurate data. The subject of malaria is introduced by a list of about fifty questions. However the writer appears to be unaware of the existence of blackwater fever, but the reader is expected to consider seriously whether the sex of the patient influences the sex of the malarial parasite. In some of the other sections, an attempt has been made to enumerate problems but these appear listed in unrelated fashion. One fails to find a scholarly presentation of the intricate and fascinating problems of protozoölogy.

The scope of this volume is admittedly very wide

covering as it does the free-living as well as the parasitic protozoa, but the selection of topics is not altogether representative. One fails to find any adequate presentation of the problem of the transmission of kala azar or any discussion of the important studies in genetics, evolution, behavior, and life-cycles as typified by the work of Jennings, Woodruff and Calkins. One contributor goes to considerable length to point out the undesirability of describing new species on insufficient data and then devotes an equal amount of space in trying to explain away the confusion that he himself has created in this respect. Thus the material constituting a number of the chapters is immature in thought and presentation.

The bibliography like the text itself is irregular in character and hardly serves to supplement that furnished by the standard works already available in this field.

Obstetrics. By J. WHITRIDGE WILLIAMS, Baltimore. New York and London, D. Appleton and Company, 1930. Sixth Edition. Price $10.00.

For nearly thirty years Dr. Williams's textbook of obstetrics has been a standard for the use of American students and practitioners. This sixth enlarged and revised edition has been thoroughly and extensively rewritten. Forty additional illustrations have been added and many of the old have been replaced by new. Among the more practical aspects of the subject in which recent advances are noted are methods of anaesthesia, the advantages and technic of low Caesarean section, the toxaemias of pregnancy, and the benefits of blood transfusion in obstetrical emergencies. At the end of each section abundant references are given to the literature of the subject. The work is illustrated with seven hundred and thirty text figures and seventeen full-page plate engravings, some in colors. This book is thoroughly scholarly and should retain its high position in the literature of American obstetrics.

Obstetrics for Nurses. By CHARLES B. REED, M.D., and CHARLOTTE L. GREGORY, R.N., M.D. Third Edition. Published by C. V. Mosby Company, St. Louis. Price $3.00.

A very thorough textbook on Obstetrics. The illustrations are good, and the subject matter on the whole is very clear, but it is the opinion of the reviewer that it is rather more extensive than is necessary for the average nurse.

Studies in Ethics for Nurses. By CHARLOTTE A. AIKENS, R.N. Published by W. B. Saunders Company, Philadelphia. Third Edition. Price $2.50.

Only one thoroughly acquainted with the problems of schools of nursing could have written such a very applicable book on this subject. It is excellent in every way.

Handbook of Anatomy. By JAMES K. YOUNG, M.D., F.A.C.S. Revised by George W. Miller, M.D., F.A.C.S. Philadelphia: F. A. Davis Company. 1930. Seventh Edition. Price $3.75.

For forty years Dr. Young's handbook has been recognized as one of the most complete and satisfactory compendia of anatomy. In this seventh revised edition, Dr. Miller makes a courageous attempt to employ throughout the Basler Nomina Anatomica with English equivalents in parentheses. The work, which is illustrated by one hundred and fifty figures and four colored plates, contains a very extensive amount of anatomic information concentrated within the compass of four hundred and twenty-six rather small pages. There is an admirable index. The volume should continue to be of reliable value to medical students.

Diseases of Women. By Ten Teachers under direction of COMYNS BERKELEY, M.A., M.D., M.C. (Cantab.), F.R.C.P. (Lond.), F.R.C.S (Eng.). New York: William Wood and Company, 1930. Fourth Edition. Price $6.00.

Some years ago, the first edition of this British textbook of gynaecology was published as a companion volume to the treatise on midwifery by the same authors, whose names include Andrews, Barris, Berkeley, Bonney, Cook, Dodd, Fairbairn, Roy, Stevens, and White. This fourth edition represents a thorough revision of the original, for which all the contributors have been collectively responsible. Particularly the anatomical and physiological section has been rewritten. The volume covers the entire field of gynaecology in eleven sections and sixty-two chapters and is well illustrated with one hundred and eighty-six text figures and eight full-page colored plates. Within the limits of five hundred and fifty pages it furnishes an admirable survey of the subject.

Histology for Medical Students. By H. HARTRIDGE, Professor of Physiology, University of London, at St. Bartholomew's Medical College, and F. HAYNES, Demonstrator of Histology, University of London, at St. Bartholomew's Medical College. Published by Oxford University Press, London: Humphrey Milford, 1930.

So designed as to withstand rigorous usage; printed upon thick, heavy paper in clear type and free from typographical errors, the text consists of 369 pages of subject matter and illustrations. Characterized by conciseness of statement, and bereft of detailed histologic descriptions, the authors have attempted to furnish a textbook expressly suited to the needs of the medical student.

With regard to the scope of the volume, it includes the main histologic discussions, and also some recent histologic developments. The contents are divided into the following main headings; namely, section cutting and staining, microscopy; the histology of the cell; epithelia and endothelia; the connective tissues; the muscles; the heart, et cetera; the nervous tissues; the organs of special sensibility; the respiratory system; the digestive

system; the glands; the genito-urinary system, and methods and formulae.

There is included a table of contents, an index of subject matter, and a list of the diagrams and drawings. Under every chapter each sub-topic is introduced in large type, followed by a more lucid discussion in small type. This scheme of presentation should be of assistance to the student in the location and orientation of the subject matter.

There is a comprehensive treatment of stains and staining methods, mounting, intravitam staining, tissue culture, grafting, microdissection and injection and the identification of tissues.

Drawings, colored according to the haematoxylin and eosin staining reaction, are used exclusively for the illustration of tissue structure. These colored reproductions, in most instances, are of little value because of poor artistry that makes for inaccuracy and lack of detail.

The impression is gained that the authors are primarily interested in having the student acquire a mental image of the appearance of normal tissue to the end that such a knowledge may be later utilized in histopathology; and for this purpose a short treatise of the material is sufficient. In a number of instances, however, there was not sufficient elucidation of the subject to make the histological description clear. This fact, combined with the general uselessness of the colored drawings, greatly depreciates the value of the text for the purpose for which it was intended.

The Principles and Practice of Hygiene. By Dean Franklin Smiley, A.B., M.D., Medical Adviser and Professor of Hygiene in Cornell University, and Adrian Gordon Gould, Ph.B., M.D., Assistant Medical Adviser and Assistant Professor of Hygiene in Cornell University, and Elizabeth Melby, M.A. (Columbia), R.N., Assistant Professor, Yale University School of Nursing. New York: The Macmillan Company. 1930. Price $2.50.

All sorts and conditions of men and women have felt called upon to write books intended for the promotion of public health—The Principles and Practice of Hygiene by the above-named authors is in contrast to many other books relating to the subject by its evidence of painstaking care in its preparation, arrangement and composition and by its cautious discrimination in the presentation of some current conceptions of deviations from what is most desirable in a physical or mental make-up and their prevention or remedies. Reference is also made to a selected bibliography for supplementary reading.

According to the Preface the book was intended especially for the use of nurses. The reviewer has had the experience of being called upon to tell why public health nurses "are such unhealthy looking women". While the authors do not appear to have been inspired with this thought, the book being intended to be used by nurses in the instruction of the public rather than for personal application, it is nevertheless a book which may be profitably read, not only by nurses but by anybody else including physicians.

Twenty-six chapters are comprised within its four hundred pages. Among the subjects treated under chapter headings are the following:

Factors Producing Ill-Health, The Prevention of Colds, Sore Throat and Nasal Obstruction, The Prevention of Disorders of the Digestive Tract, Mental Hygiene and The Nurse, The Prevention of Diseases of the Heart, Blood Vessels, Kidneys and Bladder, The Hygiene of the Genital System and the Sex Instinct, Health Educational Responsibilities of the Nurse, Psycho-biological Foundations of Hygiene, The Laws of Learning in the Formation of Health Habits, Health and Hygiene in Personal Attitudes and in Social Intergradation.

Chronic Nasal Sinusitis and Its Relation to General Medicine. By Patrick Watson-Williams, Hon. Consulting Surgeon in Diseases of the Ear, Nose and Throat, Bristol Royal Infirmary; late Lecturer on Oto-Rhino-Laryngology in the University of Bristol; Hon. Member of the Laryngological Society of Vienna; Corresponding Member, Oto-Rhino-Laryngological Society of France, etc. 212 pages of text. Publishers: William Wood & Co., New York. Price $5.00.

A monograph, based on the author's Semon Lecture at the University of London, and of special interest inasmuch as it deals with the distant rather than the local effects of infectious diseases of the nasal accessory sinuses. The first portion of the book explains the mechanism of infection in the light of modern bacteriological conceptions, the pathways along which the toxins and bacteria spread and their effects upon the various receptors. The remainder is devoted to a detailed description of the author's technique in detecting and treating foci of infection in the nose and accessory sinuses.

The volume is a welcome addition to the library of the laryngologist.

The Mechanism of the Heart and Its Anomalies. By Émile Géraudel. Translated, with an Introduction, by Louis Faugères Bishop and Louis Faugères Bishop, Jr. Williams and Wilkins Company, Baltimore, 1930. Edition Limited to Five Hundred Copies, $10. Pp. 266 including the index of 4 pp. Eight Chapters, 200 Illustrations.

There is, in the mind of the reviewer, some question of the value of translating this monograph into English and thereby increasing its price over four times that of the original publication in France in 1928. The question arises from the fact of the largely hypothetical basis for this new interpretation of the mechanism of the heart beat

The book is divided into two parts: I. Electrocardiography and the Anatomy of the Heart; and II. The Anomalies of the Cardiac Mechanism. A novel theory of the physiology of cardiac action is proposed and then applied to the variations of heart rhythm. This requires that the conception of the heart as

having a sequential auriculo-ventricular contraction dependent upon rhythmic impulses from the sinus node propagated to the atrioventricular node and then through the special conducting network of the ventricles, be abandoned for the theory of the "cardio-nectors". These are the sinoaricular ("atrionector") and atrioventricular ("ventriculonector") nodes which, however, are imagined as unrelated, controlling, pacemakers of the auricle and ventricle respectively, having independent and quite isolated blood supplies, and initiating impulses not in relation to each other but at rates governed in some way by the arrival of the pulse waves in their vicinity. "The P-R interval is an indication of the time elapsing between the arrivals of the two waves." The course of the artery to the sinus node is said always to be shorter than that to the atrioventricular node, explaining the usual precedence of the auricle.

With this premise an elaborate analysis is made of the cardiac arhythmias, and abnormalities of mechanism dependent on variations of blood supply to the cardionectors. The anatomical discussion is interesting and the pathological work done on the three cases reported at the end of the book is most painstaking. The evidence appears, however, rather meagre from which to propose such a revolutionary change in the interpretation of the electrical activity of the heart. It should also be mentioned that the very recent work of Wilson and his associates at Ann Arbor on direct electrical stimulation of the exposed human heart clarifies some of the previous confusion in the analysis of electrocardiograms which Géraudel finds difficult to correlate with the standard interpretation of records.

The book should be considered by experts in the field of electrocardiography if only to make them question their own infallibility, but in reading it one cannot but agree with the dictum of Sir Thomas Lewis that "Hypothesis is the heart which no man with right purpose wears willingly upon his sleeve. He who vaunts his lady love, ere yet she is won, is apt to display himself as frivolous or the lady a wanton."

The Improved Prophylactic Method in the Treatment of Eclampsia. By PROFESSOR W. STROGANOFF. Third English Edition, thoroughly Revised and Completed. First English Edition. New York: William Wood & Co. Edinburgh: E. & S. Livingstone. MCMXXX. Price $3.50.

The aim of the "improved prophylactic method" of Stroganoff for the treatment of eclampsia is the arrest of the convulsions which characterize the disease. According to the author this end is achieved by adherence to five principles.

1. The removal of all possible irritation. The patient is placed in a separate, quiet darkened room. Examination, catheterization, subcutaneous medication, even the administration of enemata are all performed under light chloroform anaesthesia.

2. The introduction of narcotics. At the beginning of treatment from 1/6 to 1/3 of a grain of morphine muriate is given subcutaneously. The average dose is 1/4 of a grain. One hour later 32 grains of chloral hydrate is dissolved in milk and saline and administered as a retention enema. In two hours more the original dose of morphine is repeated and four hours after this the original amount of chloral is again given. At the end of six more hours 24 grains of chloral is introduced by rectum and eight hours later the same dose of chloral is repeated. Thus the average patient receives in 21 hours 1/2 of a grain of morphine and 112 grains of chloral. With severe cases in vigorous patients Stroganoff gives as much as 2/3 of a grain of morphine and 144 grains of chloral in the same length of time. In exceptional instances he has administered this increased amount of medication within twelve or fourteen hours. All subcutaneous injections and retentions enemata are given under light chloroform narcosis.

3. Delivery. Stroganoff advocates as prompt delivery as possible but condemns forcible extraction. All operative work is done under chloroform anaesthesia.

4. The upkeep of the chief bodily functions. Respiration is aided by slight elevation of the head and the inhalation of oxygen following convulsions. If the pulse rate is rapid, digitalis is given. In acute heart failure he administers digalen, caffeine and tincture of musk. The maintenance of kidney function and of the excretory power of the skin is encouraged by the application of hot water bottles to the flanks and to the extremities. The reviewer believes that the physician who elects to follow this advice should do so with great caution. Unconscious eclamptics have frequently received distressing burns when treated in this manner. The careful obstetrician will make no mistake if he refrains from applying any direct source of heat to an eclamptic.

5. Venesection. Should two or three convulsions ensue after treatment is under way Stroganoff removes 400 c.c. of blood by venesection. Nearly 75 per cent. of his patients have had no further fits following this procedure.

In this book American readers have for the first time in readily available form the treatment of eclampsia as actually carried out by Stroganoff. He considers his improvements to be the larger dosages of morphine and chloral and the more frequent use of venesection. He is not specific regarding the conditions under which he resorts to artificial delivery. He does not say whether forceps, version and breech extraction are performed only after full dilatation of the os or on some occasions before the end of the first stage of labor. His lack of clarity on this point is disappointing as most American obstetricians who follow the conservative line of treatment avoid operation except on the strictest indications. Since he condemns the dilating bag we assume that he does not induce labor during the convulsive phase of the disease and in this he follows the best practice of this country.

If the Stroganoff régime as set forth in this book has ever been followed exactly in any American

clinic the reviewer is not aware of it. In this country the systematic administration of morphine and chloral has been combined with a variety of other procedures, such as induction of labor, the intravenous use of magnesium sulphate and even Caesarean section. The feature of Stroganoff's treatment at which American obstetricians have shied is his liberal use of chloroform. It has been the prevalent opinion here that chloroform caused damage to the liver. Since it is known that the livers of most eclamptics who come to autopsy show focal haemorrhages or necroses it has seemed to many that chloroform is a dangerous drug to use in eclampsia. The theory that chloroform is toxic to the liver rests both on animal experimentation and autopsy findings. Doyon and Billet, Howland and Richards, Whipple and Sperry, Muskens, Mosiman and Whipple have produced central necrosis in laboratory animals and Sippel, Bevan and Favill and Stevens report similar findings on postmortem examinations of human beings. In the face of all this evidence it seems remarkable that Stroganoff's results should be so good. Whether chloroform is really the active liver poison that some authorities would have us believe or whether its actual danger to pregnant women has been exaggerated in the United States is not by any means clear. Certain it is that unless chloroform is used exactly as Stroganoff employs it the method is not Stroganoff's.

Stroganoff naïvely wonders if American chloroform is as good as that to which he has been accustomed. Be that as it may, it is the impression of competent observers that Russian eclampsia is not as bad as American eclampsia. A great many of Stroganoff's cases were mild when compared with those to which we are accustomed in this country and it is reasonable to suppose that this fact has some bearing on the excellence of his statistics. He reports a maternal mortality of only 2.6% in 320 cases and a consecutive series of 166 cases without a death. Consolidated statistics from 1924 to 1929 covering 3589 cases of eclampsia in the hands of 22 different obstetricians following his treatment or a modification of it show a mortality of 10%.

Stroganoff's book is indispensable to every obstetrician who is interested in the conservative treatment of eclampsia, and all should be. It suffers somewhat from needless repetition and a certain turbidity of style, but the English edition is the work of three different translators. Happy indeed should be the American writer whose thoughts fared no worse in Russian.

Eighteenth Annual Report of the Medical Department of The United Fruit Company, 1929

This report is as replete with matters of real medical value, if not more so, than those of previous years.

A series of articles dealing with the old but ever important problems related to the treatment and control of malaria is especially illuminating. A few of the points brought out may be mentioned. Excellent results are ordinarily obtained in the hospitals of the Fruit Company with friable tablets of the *sulphate* of quinine taken by mouth. Small amounts of plasmochin are given for a short time to render the patient non-infectious by damaging the gametocites. For most cases, quinine is still the best remedy for curing the disease. Intramuscular injections of quinine are reserved for special indications. Intravenous injections are considered too dangerous for frequent use. Hypodermic injections of adrenalin chloride have become almost a routine in severe cases. Apparently, adrenalin controls the vomiting and drives parasites out into the peripheral circulation where the quinine can reach them.

In the control of malaria the need of treating all cases promptly, the value of plasmochin to reduce infectivity, and the importance of the child as a reservoir of infection are emphasized.

Records for recent years show a high incidence of, and a very high mortality from, pneumonia. During the last year, without marked change in the incidence, the mortality fell sharply. The reasons for this are not fully apparent, but earlier hospitalization of cases seems to have been a factor.

Among other articles of special interest, is one which points out the scarcity or absence of gout in the tropics; another presents evidence indicating that a non-dietary factor may influence the development of beriberi; and a third attributes cases of night blindness among certain laborers to dietary deficiency, even though the cases did not present the picture of scurvy, a disease with which night blindness has been found associated.

Most of the contributions in the report must be read to be appreciated.

A System of Clinical Medicine. By THOMAS DIXON SAVILL, M.D. Lond. Eighth Edition. New York: William Wood and Company, 1930. Price $10.00.

The author of this volume, now in its 8th edition, has approached the subject of clinical medicine in an unorthodox manner. Special emphasis is laid on symptoms, and diagnosis is approached in what one may describe as a synthetic method, though the total result is a book not so different from the conventional textbook. Diagnosis, prognosis and treatment then follow and also pertinent laboratory data.

The factual contents of the book are very complete and there is evidence that a genuine attempt has been made to keep it up to date. There are several points which have been omitted or incompletely presented. The discussion of the anatomy of the heart contains no mention of the circulation of the heart so important in coronary disease. There is a very meagre discussion of digitalis therapy and diabetic coma. There is no mention of the importance of sodium chloride in intestinal obstruction. Postural drainage in lung abscess is also omitted.

A considerable portion of the printed matter is in very small type which makes sustained reading difficult.

Clinical Pediatrics, Volumes 19, 20 and 21. D. Appleton & Company. Vol. XIX. *Diseases of the Genito-Urinary System in Infancy and Childhood.* By HENRY F. HELMHOLZ, M.D., Professor of Pediatrics, University of Minnesota (The Mayo Foundation); Head of Section on Pediatrics, The Mayo Clinic, Rochester, Minn.; and SAMUEL AMBERG, M.D., Associate Professor of Pediatrics, University of Minnesota (The Mayo Foundation); Associate, Section on Pediatrics, The Mayo Clinic, Rochester, Minn.

This volume is a most satisfactory presentation of what is known and what is not known regarding the diseases of the genito-urinary tract in early life. The authors first take up the development, anatomy and physiology of this tract in order to make clear the pathologic changes in disease. They then describe the various methods of diagnosis and their application. We wish that the psychiatrists and the psychologists would read the chapter on enuresis. Their classification of nephritis is rather unusual, but, as they state in their preface, there are so many problems regarding renal function and the pathologic changes that a wholly satisfactory classification of nephritis is impossible. The treatment which they recommend is modern and rational. We are a little surprised, however, that they mention so many drugs and apparently have so much confidence in them. The section on pyogenic infections of the urinary tract is especially good. The list of references to important articles is given at the end of each chapter, which should prove most useful to anyone looking up the subject.

Vol. XX. *Laboratory Pediatrics.* By JOHN D. LYTTLE, A.B., M.D., Assistant Clinical Professor of Diseases of Children, College of Physicians and Surgeons, Columbia University, N. Y.

The author states in his preface that the object of this volume is to help the general practitioner to understand such pediatric cases as come under his care and require special aid from the laboratory to establish or confirm a diagnosis. It is not a laboratory manual, although the technic of a few of the newer procedures has been described. In our opinion it would be more useful if it were. The material which it contains is, of course, useful and instructive. It is not complete, however, and many of the differentiations and descriptions of diseases are unsatisfactory and misleading, mainly because they are so short. They do not belong in such a book, moreover, but in the volumes treating of these diseases. We also feel that the descriptions and explanations of the value of the various laboratory procedures would be far more useful and helpful, if they were given in the other volumes in which the various diseases and their differential diagnoses are described.

Vol. XXI. *Composite Index and Cumulative Supplement.*

Nothing needs to be said as to the Composite Index. It seems entirely adequate.

The Cumulative Supplement is devoted to developments along various lines since the publication of the original volumes. Considerable and important material is given regarding the newborn. The other additions are small and unimportant, except perhaps those regarding the diseases of the blood and blood-building organs.

The Treatment of the Common Disorders of Digestion—A Handbook for Physicians and Students. By JOHN L. KANTOR, Ph.D., M.D., Visiting Physician in Gastrointestinal Diseases, Vanderbilt Clinic, Presbyterian Hospital; Associate in Medicine, Columbia University; Gastroenterologist and Associate Roentgenologist, Montefiore Hospital for Chronic Diseases, New York City. Second Edition. The C. V. Mosby Company, St. Louis. 300 pages. Price $6.00.

The above volume by Kantor is a reasonably small book and the material contained in it is simply presented. It might well have been entitled "A Handbook of Gastrointestinal Therapeutics." In this volume Kantor discusses the general management of functional digestive disturbances, peptic ulcer, achylia gastrica, diseases of the colon, constipation, diarrhea, and certain other phases of disturbances of digestion. The chief merit in the book lies in the fact that the discussion of the various conditions is limited to essentials, the subject matter is presented in a clear, concise manner. Academic discussions on cause and effect of various conditions are not of sufficient length to confuse the reader, and many practical suggestions for the control of patients with digestive disturbances are presented. There is nothing new in the book, but many of the outstanding complaints of gastrointestinal diseases are outlined in order of importance in such a way that the practicing physician would obtain real help in the management of various types of rather difficult cases. The tone of the entire volume is conservative and personal fads of the author are not pushed forward to the exclusion of other equally or more important measures. It is a book that the average practicing physician could well afford to have in his library.

Doctor and Patient. By FRANCIS W. PEABODY, M.D. Published by the Macmillan Company, New York. 95 pages. Price $1.50.

Approximately three years after the death of Francis Peabody, there comes to us from the press of The Macmillan Company a little volume containing four essays written by him at various times, and an introduction by Dr. Hans Zinsser. All of the essays—one of which, to be accurate, is really a letter—deal with the relationship between doctor and patient. Each essay considers this relationship from a different angle but the light which it casts is so focussed upon the central theme that the four together illuminate the subject with a light as bright as day. The first one—The Public and the General Practitioner—is concerned largely with a discussion of the problem of specialization in medicine. The Care of the Patient, which was reviewed

in these columns when it first appeared as a separate monograph, deals with the personal relationship between doctor and patient; it is a plea for more humanity in medicine. The Physician and the Laboratory is an analysis of the value of the laboratory in the art and science of medicine, particularly as regards the usefulness of laboratory methods in actual practice. The Soul of the Clinic is the title given to a letter written to Dr. Warfield T. Longcope in which the writer gave his views of the duties and opportunities of the Chief of a Clinic.

All of these essays are distinguished by four characteristics—their soundness in logic, their breadth of vision, the high plane of idealism which they display, and their humanity. One cannot close this review without referring to the clarity and ease with which the author's ideas are expressed. These essays are models of composition, and might well serve as examples for those who would write, simply but beautifully, on the problems of medicine. If Peabody had left nothing else than these four essays, he would not have lived in vain.

Studies from the Rockefeller Institute for Medical Research. Volume 71. Published by the Rockefeller Institute for Medical Research.

This volume contains the collective reprints from the Rockefeller Institute and Hospital, covering a portion of 1928 and 1929. The usual wide range of studies is represented. The work of Landsteiner and his associates on the iso-agglutinins of blood are continued as are the observations of Rivers on filtrable viruses. There are relatively few articles of interest to the general practitioner.

Clinical Nutrition and Feeding in Infancy and Childhood. By I. Newton Kugelmass, M.D., Ph.D., Sc.D., Associate Attending Pediatrician, Fifth Avenue Hospital; Riverside Hospital; Pediatrist, Hospital for Ruptured and Crippled; Director, Heckscher Institute for Child Health. Published by J. B. Lippincott Co. Price $6.00.

As stated in the preface, this book is intended to supply the general practitioner with information concerning the etiology, diagnosis and treatment of the problems of pediatrics involving nutrition. The first chapters take up the nutritional requirements of an adequate diet for growth, the properties of foodstuffs, prenatal nutrition, breast and artificial feeding and the feeding of normal children. These chapters contain many valuable tables of food values not only in calories but in the different salts, also tables as to the acid and alkaline content of foods. The author is certainly "advanced" in his ideas as to artificial infant feeding. He advises, for example, at two months Jello, banana and egg yolk! We feel that his ideas would be more rational if he paid less attention to calories, mineral metabolism and vitamins and more to the digestibility of foods. He then takes up a great variety of diseases under different classifications. It seems strange to include enuresis among the metabolic diseases and chorea among the convulsive diseases. His advice as to the line of diet is in general good. In his short summing up of each disease he makes many flatfooted statements which cannot be accepted without modification. It is impossible to discuss them in detail. He gives special diets for all sorts of conditions in great detail and finishes his book with very elaborate tables of food values. We know of no single book which contains so much useful information of this sort. Nevertheless, we feel that it would be most unwise in practice to follow his directions literally.

American Pocket Medical Dictionary. Edited by W. A. Newman Dorland, A.M., M.D. Fourteenth Edition, Revised. W. B. Saunders Company, 1930. Price $2.00.

This excellent volume has been brought up to date in this fourteenth edition and, in general, it is exceptionally complete. Certain definitions suffer from too much brevity. For example, acidosis is defined as "increased acidity of the blood" which is not a true definition of the clinical concept of this condition.

By virtue of continual expansion, the book has outgrown the true pocket size edition, a feature, however, which does not detract from its value. There are the usual tables, measures, and dosages.

A Textbook of Pathology. Edited by E. R. Bell, M.D. Lea and Febiger, Pp. 627. Price $8.00.

For the practitioner who wishes to review the general field of pathology or for the student who has had a course in pathology and desires to review for an examination, this is an extremely valuable book. As a reference book for students or for workers in pathology it is inadequate and is evidently meant to be supplemented by lectures or reading in other textbooks, as most of the material is presented in skeleton form, with but little theoretical discussion.

The volume is excellently illustrated with 316 well-chosen engravings and two colored plates.

Perhaps the most interesting and valuable section is that dealing with the pathology of the kidney. For its succinct clarity it is far above most discussions of the subject.

Some sections of the book have been contributed by Dr. Bell's associates, Drs. B. J. Clawson. Hal Downey, J. S. McCartney, J. C. McKinley, and C. J. Watson.

Epidemiological Essays. By F. G. Crookshank, M.D., F.R.C.P. London: Kegan Paul, Trench, Trubner, and Company, Ltd., 1930. Price 7s. 6d. net.

It is a rare and genuine satisfaction in these days to read a series of essays like those constituting the present volume, which are less concerned with the statistics of laboratory research than with an attempt to correlate certain modern medical phenomena with the rationale of Hippocratic philosophy. The author's epidemiology deals primar-

ily not with figures and numbers but with peoples, times, seasons, airs, waters, and places. To each chapter he prefixes an opposite quotation from the precepts or aphorisms of Hippocrates and to some of the chapters appends references to modern or classical bibliography. The final chapter on the mortality of pneumonia reminds one of "The Doctor's Dilemma", and might almost have been written by Shaw himself. Dr. Crookshank's volume hardly intends to be a scientific contribution in the ordinary sense of the term. It is rather a literary and philosophical discussion of certain scientific problems, suggesting that there are more things in medicine and its practice than are dreamt of in epidemiology.

Elementary Zoölogy for Medical Students. By L. A. Borradaile, Sc.D. Humphrey Milford, Oxford University Press. Pp. 397.

This is not a textbook in the usual sense of the word, but rather a detailed description of certain animals representing the various groups. In view of the marked difference in preliminary medical education between England and this country, a volume such as this will have very little use here inasmuch as it is so highly specialized. It cannot be used to take the place of any of the ordinary textbooks of zoölogy because of the omission of much of the theoretical material. It is little more than an excellent and highly specialized dissecting manual.

"The Candiru." By Eugene W. Gudger, Ph.D. With a foreword by Aldred Scott Warthin. Published by Paul B. Hoeber, Inc., N. Y. 1930. Price $1.50.

This little book brings together all available information about the candiru, a small fish which is found in some of the tributaries of the Amazon River. Mr. Gudger is an ichthyologist of the American Museum of Natural History of New York. Along with reports and stories of doubtful authenticity, Mr. Gudger has obtained testimony from such well-known men of science as Mr. Paul le Cointe, who has spent many years on the Amazon, and Dr. Alfredo da Motta, who for many years has been an outstanding physician of Moreaos. Upon the testimony presented, it seems necessary to accept as a fact the statement that the candiru occasionally penetrates the vagina of a woman while bathing in one of the rivers where this fish abounds and that, less often, it may even enter the male urethra. The story is so extraordinary that further information would be not only desirable but interesting.

The facts in detail can be obtained by reading the book.

BOOKS RECEIVED FOR REVIEW

Handbook of Anatomy by James K. Young. Revised by George W. Miller. Seventh Edition. F. A. Davis Company, Publishers. 460 Pages. Price $3.75.

Medical Art Calendar, for the year 1931. Published by J. Philip Kruseman. Price $1.50.

Diagnose und Differentialdiagnose der Frauenkrankheiten by Dr. Walther Benthin. Published by Urban & Schwarzenberg. 365 Pages.

The African Republic of Liberia and the Belgian Congo. Published by Harvard University Press. 2 volumes. 1064 Pages. Price $15.00.

Illustrated Primer on Fractures. Prepared by the Coöperative Committee on Fractures. Published by the American Medical Association. 55 Pages. Price $1.00.

Bergey's Manual of Determinative Bacteriology by David H. Bergey. Third Edition. Published by Williams and Wilkins Company. 589 Pages. Price $6.00.

Our New Progress by James Bayard Clark. Published by G. P. Putnam's Sons. 128 Pages. Price $2.00.

Quelques Dermatoses Communes de L'Enfance by A. Boutelier. Published by Gauthier-Villars et Cie, Éditeurs. 231 Pages.

The Mind at Mischief by William S. Sadler. Funk & Wagnalls Company, Publishers. 400 Pages.

A Textbook of Gynecology by Arthur Hale Curtis. Published by W. B. Saunders Company. 380 Pages. Price $5.00.

The Surgical Clinics of North America. October, 1930, Volume 10—Number 5. Pacific Coast Surgical Association Number. Published by W. B. Saunders Company. 271 Pages. Per Clinic Year (February, 1930, to December, 1930): Paper, $12.00; Cloth, $16.00.

Legal Medicine and Toxicology by Ralph W. Webster. Published by W. B. Saunders Company. 862 Pages. Price $8.50.

A Textbook of Medicine edited by Russell L. Cecil. Associate Editor for Diseases of the Nervous System, Foster Kennedy. Second Edition. Published by W. B. Saunders Company. 1592 Pages. Price $9.00.

Warren's Handbook of Anatomy. From original dissections by John Warren. Text by Robert M. Green. Drawings by H. F. Aitken. Published by Harvard University Press.

RADIO MESSAGES

Sponsored by the State Department of Public Health, Courtesy WBZA

Every Wednesday at 5:20 P. M.

November 26—"The Common Cold", Dr. W. T. Haley.

December 3—"Nephritis", Dr. W. H. Ohler.

December 10—"So-Called Chronic Appendicitis", Dr. Charles C. Lund.

December 17—"Accidents", Dr. Louis G. Howard.

December 24—"Some Diseases We Don't Talk About—And Why Not?" Dr. N. A. Nelson.

December 31—"The Hospital and the Public Health", Dr. Henry M. Pollock.

A "Health Forum" directed by the State Department of Public Health, courtesy WEEI, began October 2, 1930 and will continue Fridays at 4:50 P. M. Queries and Answers will be broadcast.

Questions on health and prevention of disease may be sent to "Forum", State Department of Public Health, State House, Boston, Mass.